HCD-GRX8/R800/ RX88/RX99

SERVICE MANUAL

AEP Model
UK Model
HCD-RX88/RX99
E Model
HCD-GRX8/R800
Australian Model
HCD-GRX8

HCD-GRX8/R800/RX88/RX99 is the tuner, deck, CD and amplifier section in MHC-GRX8/R800/RX88/RX99.

Photo: HCD-GRX8

This stereo system is equipped with the Dolby B-type noise reduction system*.
* Manufactured under license from Dolby Laboratories Licensing Corporation.
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CD SECTION	Model Name Using Similar Mechanism	HCD-H991AV
	CD Mechanism Type	CDM38L-5BD29AL/ CDM38LH-5BD29AL
	Base Unit Type	BU-5BD29AL
	Optical Pick-up Type	KSS-213D/Q-NP
TAPE DECK SECTION	Model Name Using Similar Mechanism	NEW
	Tape Transport Mechanism Type	TCM-230AWR1/230PWR1

SPECIFICATIONS

Amplifier section

HCD-RX88/RX99:

DIN power output (rated)
80 + 80 watts
(8 ohms at 1 kHz, DIN)
Continuous RMS power output (reference)
100 + 100 watts
(8 ohms at 1 kHz, 10% THD)
Music power output (reference)
170 + 170 watts
(8 ohms at 1 kHz, 10% THD)

HCD-GRX8/R800:

The following measured at AC 120, 220, 240 V 50/60 Hz
DIN power output (rated)
105 + 105 watts
(8 ohms at 1 kHz, DIN)
Continuous RMS power output (reference)
130 + 130 watts
(8 ohms at 1 kHz, 10% THD)
Peak music power output (reference)
2000 watts

Inputs	
VIDEO IN, MD IN: (phono jacks)	voltage 250 mV, impedance 47 kilohms
MIX MIC: (phone jack)	sensitivity 1 mV, impedance 10 kilohms
Outputs	
MD OUT: (phono jacks)	voltage 250 mV impedance 1 kilohms
PHONES: (stereo phone jack)	accepts headphones of 8 ohms or more
SPEAKER:	accepts impedance of 8 to 16 ohms
SURROUND SPEAKER:	accepts impedance of 16 ohms
SUPER WOOFER:	Voltage 1 V, impedance 1 kilohm

CD player section

System	Compact disc and digital audio system
Laser	Semiconductor laser (λ=780nm) Emission duration: continuous
Laser output	Max. 44.6 μW* *This output is the value measured at a distance of 200 mm from the objective lens surface on the Optical Pick-up Block with 7 mm aperture.
Wavelength	780 – 790 nm
Frequency response	2 Hz – 20 kHz (±0.5 dB)
Signal-to-noise ratio	More than 90 dB
Dynamic range	More than 90 dB
CD OPTICAL DIGITAL OUT (Square optical connector jack, rear panel)	
Wavelength	600 nm
Output Level	–18 dBm

Tape player section

Recording system	4-track 2-channel stereo
Frequency response (DOLBY NR OFF)	40 – 13,000 Hz (±3 dB), using Sony TYPE I cassette 40 – 14,000 Hz (±3 dB), using Sony TYPE II cassette

Tuner section

FM stereo, FM/AM superheterodyne tuner

FM tuner section

Tuning range	
2 band models:	87.5 – 108.0 MHz
3 band (FM–MW–SW) models:	87.5 – 108.0 MHz
3 band (FM–MW–LW) models:	87.5 – 108.0 MHz
4 band models:	87.5 – 108.0 MHz
Antenna	FM lead antenna
Antenna terminals	75 ohm unbalanced
Intermediate frequency	10.7 MHz

UKV tuner section (East European, CIS model)

Tuning range	65.0 – 74.0 MHz Stereo plu

— Continued on next page —

COMPACT DISC DECK RECEIVER

SONY®

MICROFILM

AM tuner section

Tuning range	
2 Band type:	531 - 1,602 kHz (with the interval set at 9 kHz) 530 - 1,710 kHz (with the interval set at 10 kHz)
3 Band/4 Band type:	
European models:	
MW:	531 - 1,602 kHz (with the interval set at 9 kHz)
LW:	153 - 279 kHz (with the interval set at 3 kHz)
Middle Eastern models:	
MW:	531 - 1,602 kHz (with the interval set at 9 kHz)
SW:	5.95 - 17.90 MHz (with the interval set at 5 kHz)
Other models:	
MW:	531 - 1,602 kHz (with the interval set at 9 kHz) 530 - 1,710 kHz (with the interval set at 10 kHz)
SW:	5.95 - 17.90 MHz (with the interval set at 5 kHz)
Antenna	AM loop antenna
Antenna terminals	External antenna terminal
Intermediate frequency	450 kHz

General

Power requirements	
European models:	230 V AC, 50/60 Hz
Other models:	120 V, 220 V or 230 - 240 V AC, 50/60 Hz Adjustable with voltage selector
Power consumption	
HCD-GRX8/R800:	270 watts
HCD-RX88/RX99:	240 watts
Dimensions (w/h/d)	Approx. 280 x 365 x 405 mm
Mass	
HCD-GRX8/R800:	Approx. 11.7 kg
HCD-RX88/RX99:	Approx. 10.4 kg

Design and specifications are subject to change without notice.

CAUTION
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

Flexible Circuit Board Repairing

- Keep the temperature of soldering iron around 270°C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

Laser component in this product is capable of emitting radiation exceeding the limit for Class 1.

CLASS 1 LASER PRODUCT
LUOKAN 1 LASERLAITE
KLASS 1 LASERAPPARAT

This appliance is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT MARKING is located on the rear exterior.

CAUTION	;	INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM.
ADVARSEL	;	USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSÆTTELSE FOR STRÅLING.
VARO!	;	AVATTAESSA JA SUOJALUKITUS OHITETTAESSA DLET ALTTIINA LASERSÄTEILYLLE.
VARNING	;	LASERSTRÅLING NÄR DENNA DEL ÄR OPPNÅD OCH SPÄRREN ÄR URXOPPLAD.
ADVARSEL	;	USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES UNNGÅ EKSPONERING FOR STRÅLEN.

This caution label is located inside the unit.

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic break-down because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic break-down and also use the procedure in the printed matter which is included in the repain parts.
The flexible board is easily damaged and should be handled with care.

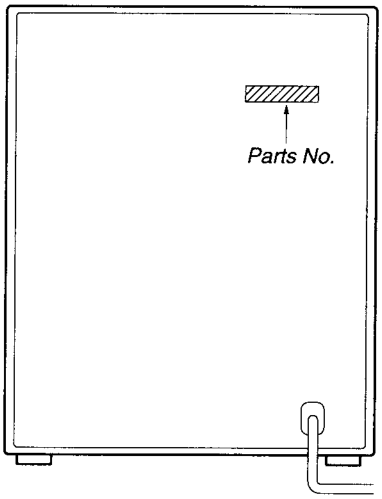
NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

LASER DIODE AND FOCUS SEARCH OPERATION CHECK

Carry out the "S curve check" in "CD section adjustment" and check that the S curve waveform is output three times.

MODEL IDENTIFICATION
— BACK PANEL —



- Abbreviation

G	: German model
EE	: East European model
MX	: Mexican model
HK	: Hong Kong model
SP	: Singapore model
MY	: Malaysia model
TW	: Taiwan model
AUS	: Australian model
AR	: Argentine model
TH	: Thailand model
EA3	: Saudi arabia model
EA4	: Israel model
E2	: Without SW tuner E model.
E3	: With SW tuner E model.

PARTS No.	MODEL	PRODUCT COUNTRY
4-996-817-0□	RX99: AEP, UK, G	MALAYSIA
4-996-817-1□	RX99: EE, CIS	MALAYSIA
4-996-817-2□	RX99: AEP, UK, G	INDONESIA
4-996-817-3□	RX99: EE, CIS	INDONESIA
4-996-817-4□	RX88	MALAYSIA
4-996-817-5□	RX88	INDONESIA
4-996-817-6□	GRX8: TH, EA4	THAILAND
4-996-818-0□	GRX8: E2, E3	INDONESIA
4-996-818-1□	GRX8: SP, MY	INDONESIA
4-996-818-2□	GRX8: TW	INDONESIA
4-996-818-3□	GRX8: HK	INDONESIA
4-996-818-4□	GRX8: AUS	INDONESIA
4-996-818-5□	GRX8: MX	INDONESIA
4-997-818-8□	R800: MX	INDONESIA
4-997-818-9□	R800: AR	INDONESIA
4-997-720-0□	GRX8: E2, E3	MALAYSIA
4-997-720-1□	GRX8: SP, MY	MALAYSIA
4-997-720-2□	GRX8: TW	MALAYSIA
4-997-720-3□	GRX8: HK	MALAYSIA
4-997-720-4□	GRX8: AUS	MALAYSIA
4-997-720-5□	GRX8: MX	MALAYSIA
4-997-720-6□	GRX8: EA3	MALAYSIA
4-997-720-8□	R800: MX	MALAYSIA
4-997-720-9□	R800: AR	MALAYSIA

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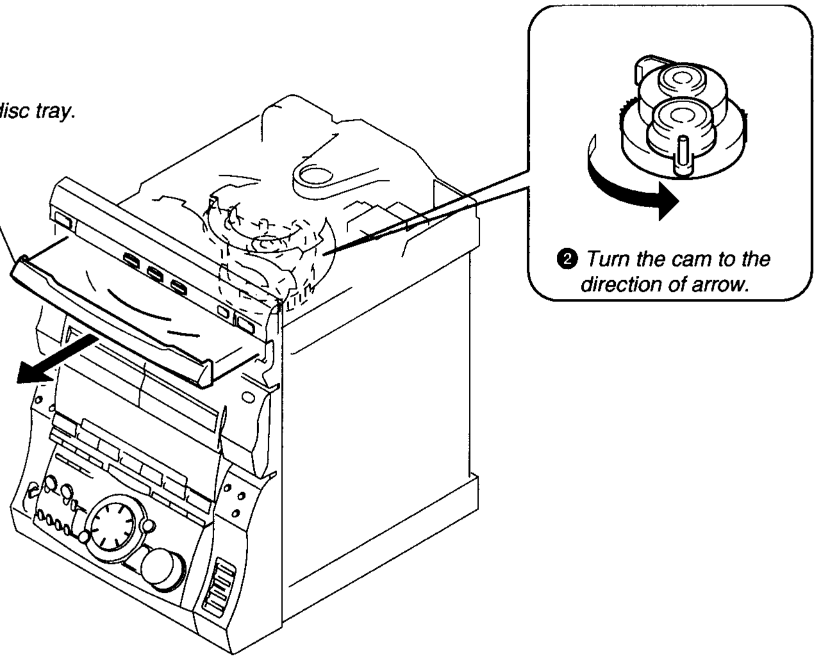
SECTION 1
SERVICING NOTE

HOW TO OPEN THE DISC TRAY WHEN POWER SWITCH TURNS OFF

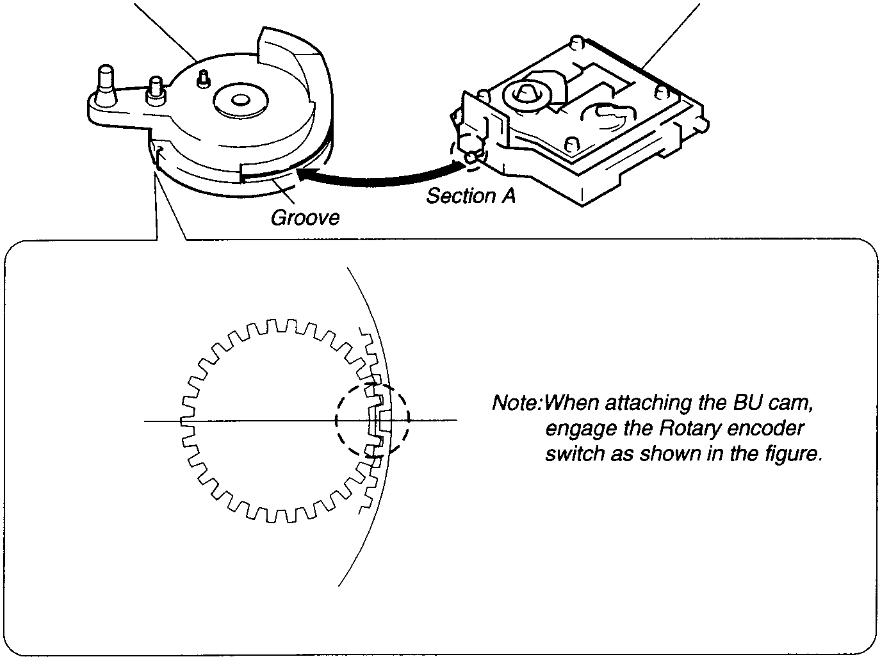
❶ *Remove the Case.*



❸ *pull-out the disc tray.*

❷ *Turn the cam to the direction of arrow.*

Note for Installation (ROTARY ENCODER)

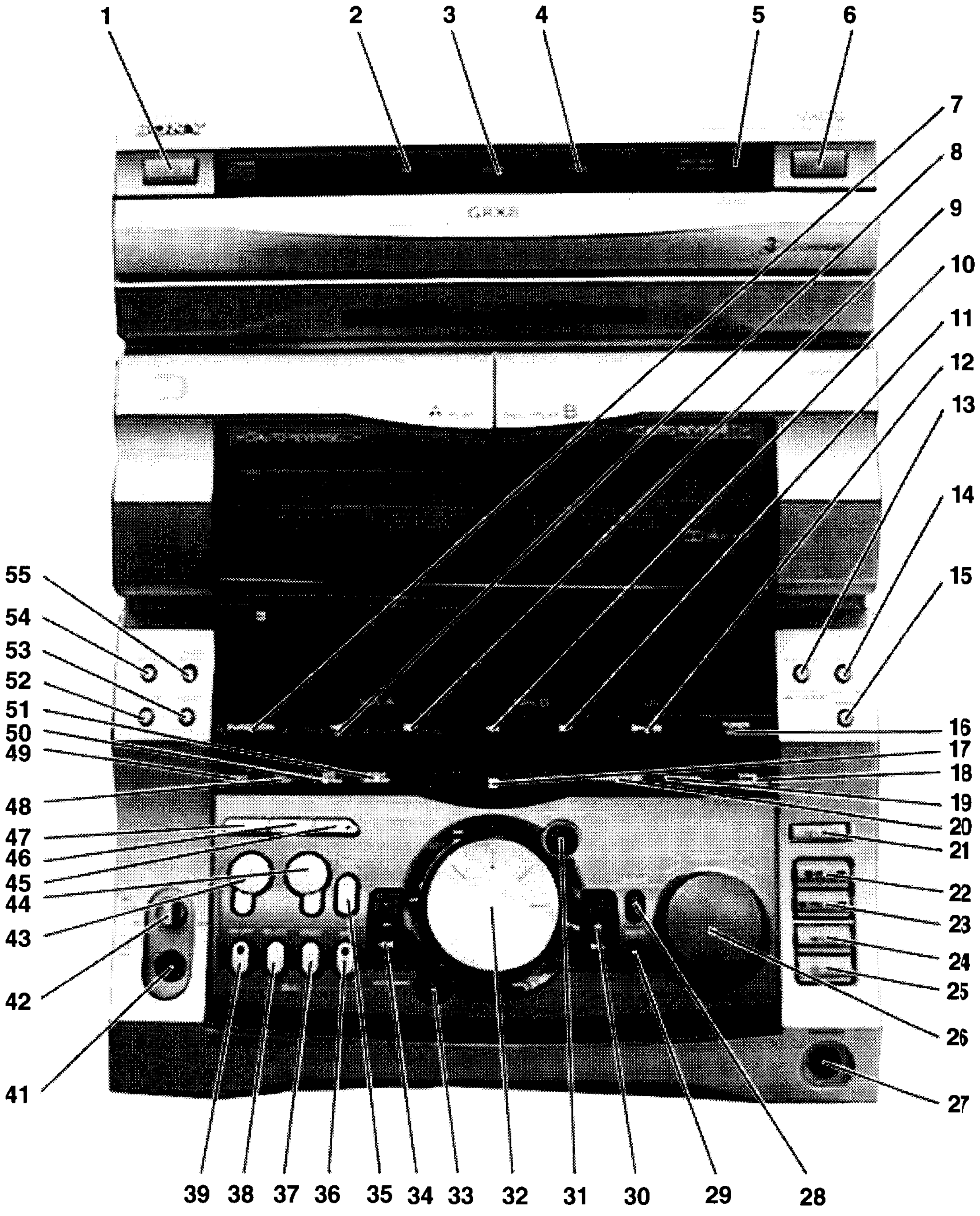


Note:*When attaching the Base unit, Insert the section A into the groove of BU cam.*

Note:When attaching the BU cam, engage the Rotary encoder switch as shown in the figure.

SECTION 2
GENERAL

Front Panel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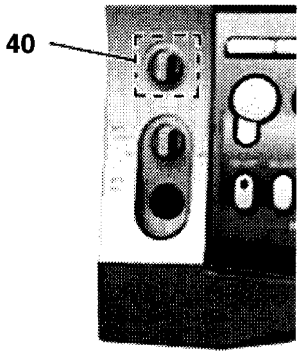


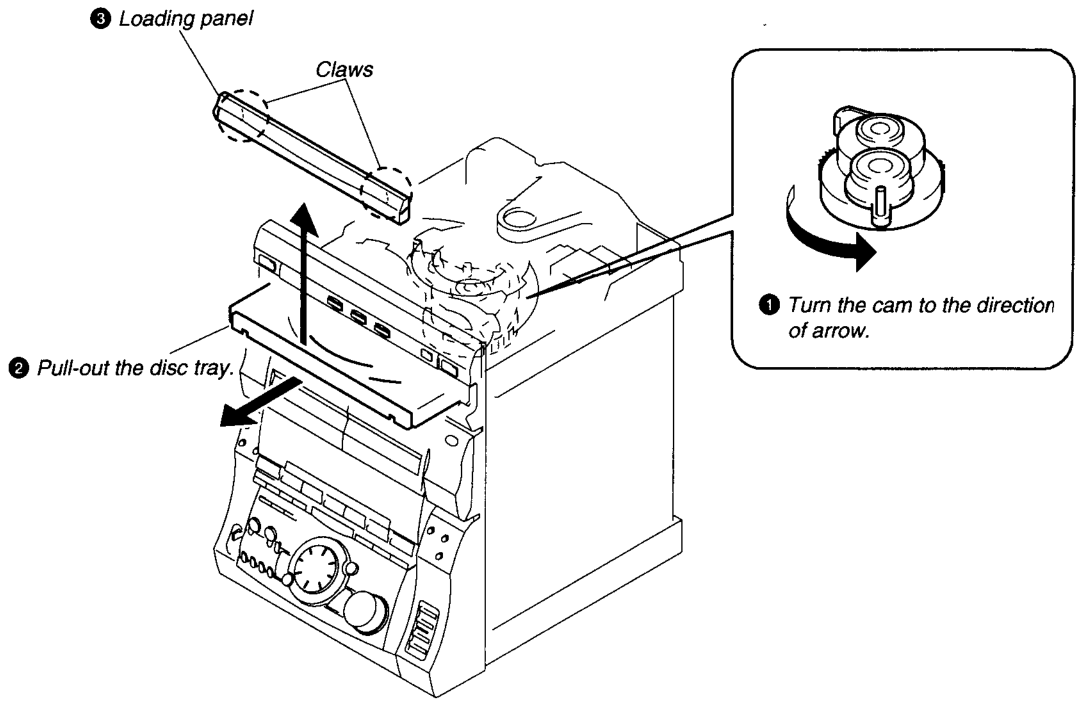
LOCATION OF PARTS AND CONTROLS

1 I/⏻ button
2 DISC 1 button
3 DISC 2 button
4 DISC 3 button
5 DISC SKIP/EX-CHANGE button
6 ⏏ button
7 FUNCTION button
8 Deck A ◁ button
9 Deck A ▷ button
10 Deck B ◁ button
11 Deck B ▷ button
12 CD ▷II button
13 PLAY MODE/DOLBY NR/TUNER MEMORY button
14 EDIT/DIRECTION button
15 REPEAT/STEREO/MONO button
16 TUNER/BAND button
17 ■ button
18 MUTING button (RX88)
SONIC FORMATION button (GRX8/RX99/R800)
19 SURROUND button
20 KARAOKE PON/MPX button
21 PTY button (AEP, UK model)
22 ● REC button
23 ❚❚ PAUSE button
24 HI-PUB button
25 CD SYNC button
26 VOLUME knob
27 PHONES jack
28 GROOVE button
29 DBFB button
30 ►►/+ button
31 ENTER/NEXT button
32 JOG button
33 AUTO BPM
34 ◄◄/– button
35 BEAT LEVEL button
36 JAM button
37 SPEED button
38 SELECT button
39 ON/OFF button
40 ECHO LEVEL knob (Saudi Arabia model)
41 MIX MIC jack
42 MIC LEVEL knob
43 PAD A button
44 PAD B button
45 NON STOP button
46 FLASH button
47 LOOP button
48 FILE SELECT button
49 EFFECT button
50 GEQ CONTROL button
51 P FILE MEMORY button
52 DISPLAY button
53 DEMO button
54 CLOCK/TIMER SET button
55 TIMER/SELECT button

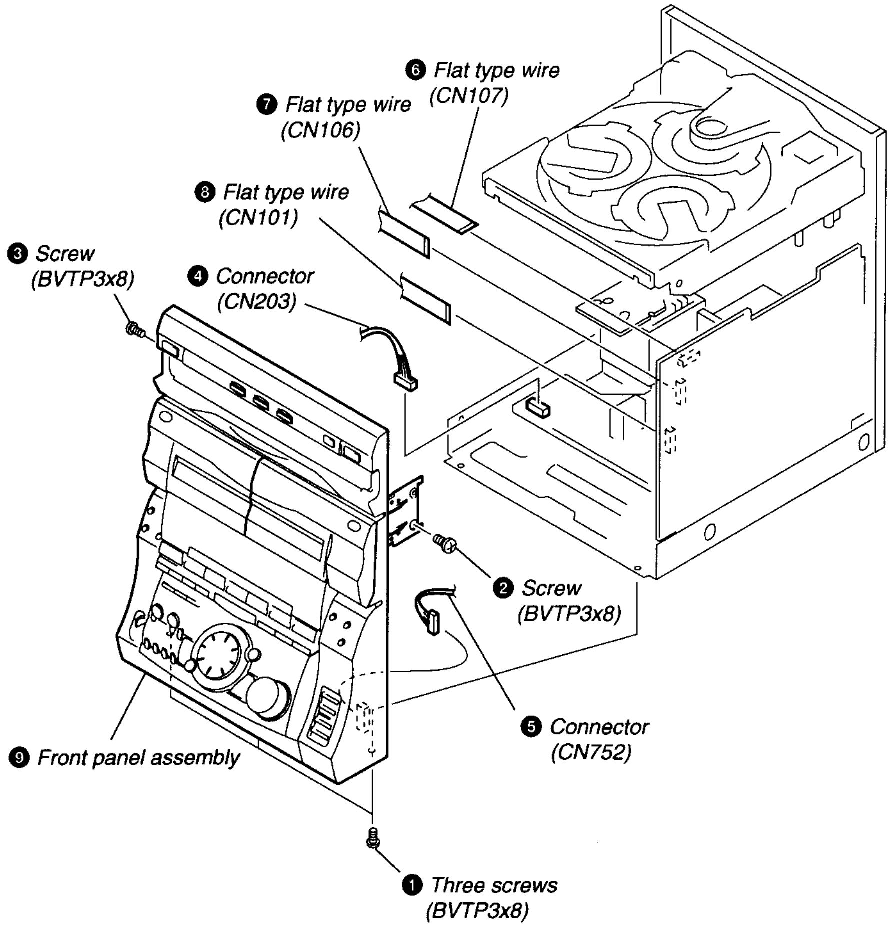
SECTION 3
DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

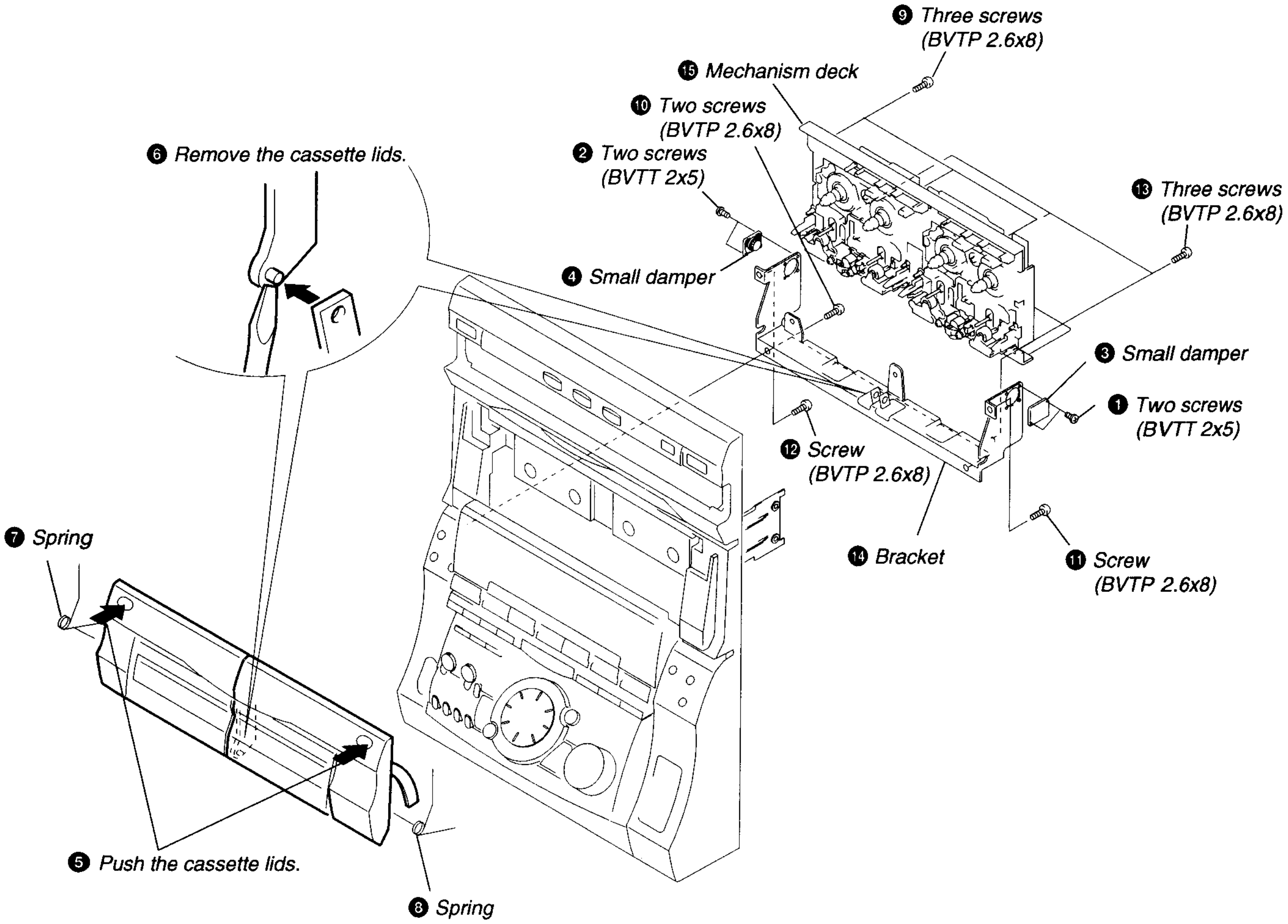
3-1. LOADING PANEL


❸ Loading panel
Claws
❶ Turn the cam to the direction of arrow.
❷ Pull-out the disc tray.

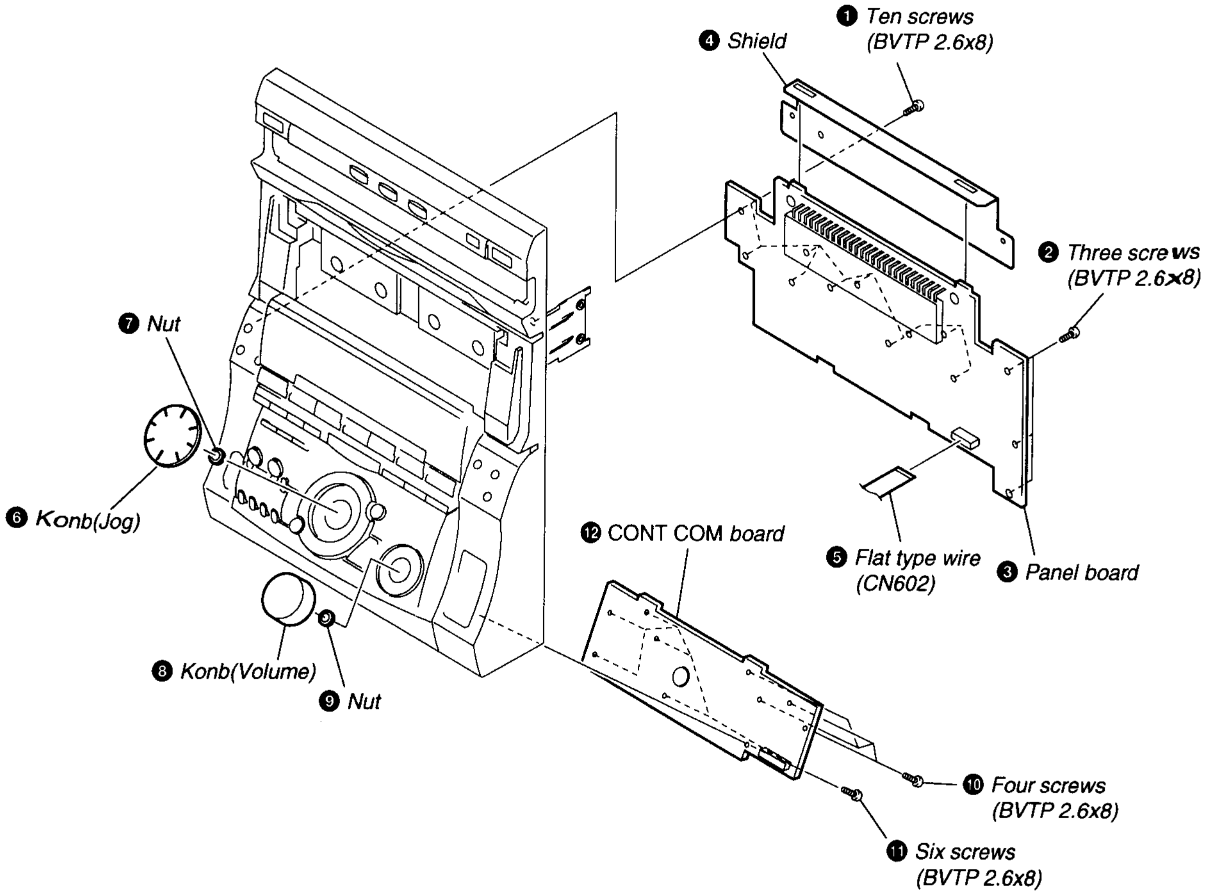
3-2. FRONT PANEL


❻ Flat type wire (CN107)
❼ Flat type wire (CN106)
❽ Flat type wire (CN101)
❸ Screw (BVTP3x8)
❹ Connector (CN203)
❷ Screw (BVTP3x8)
❺ Connector (CN752)
❾ Front panel assembly
❶ Three screws (BVTP3x8)

3-3. CASSETTE MECHANISM DECK


❾ Three screws
(BVTP 2.6x8)
⓯ Mechanism deck
❿ Two screws
(BVTP 2.6x8)
❻ Remove the cassette lids.
❷ Two screws
(BVTT 2x5)
⓭ Three screws
(BVTP 2.6x8)
❹ Small damper
❸ Small damper
❶ Two screws
(BVTT 2x5)
⓬ Screw
(BVTP 2.6x8)
❼ Spring
⓮ Bracket
⓫ Screw
(BVTP 2.6x8)
❺ Push the cassette lids.
❽ Spring

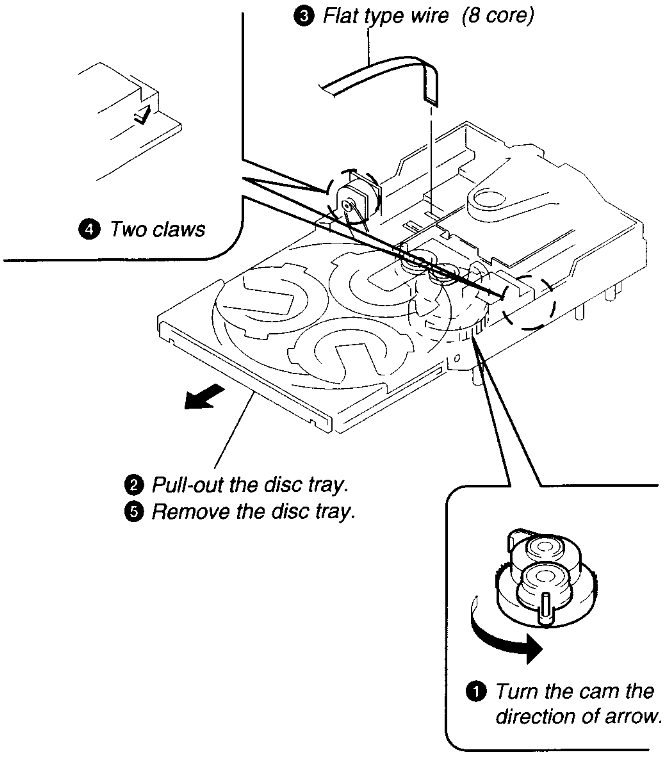
3-4. PANEL BOARD AND CONT COM BOARD


❶ Ten screws
(BVTP 2.6x8)
❹ Shield
❷ Three screws
(BVTP 2.6x8)
❼ Nut
❻ Konb(Jog)
⓬ CONT COM board
❺ Flat type wire
(CN602)
❸ Panel board
❽ Konb(Volume)
❾ Nut
❿ Four screws
(BVTP 2.6x8)
⓫ Six screws
(BVTP 2.6x8)

3-5. DISC TRAY

(Perfom after removing the front panel.)

Note: *When installing the Disc tray, pull around the flat type wire to pass through the clawA and clawB, as shown in the figure.*

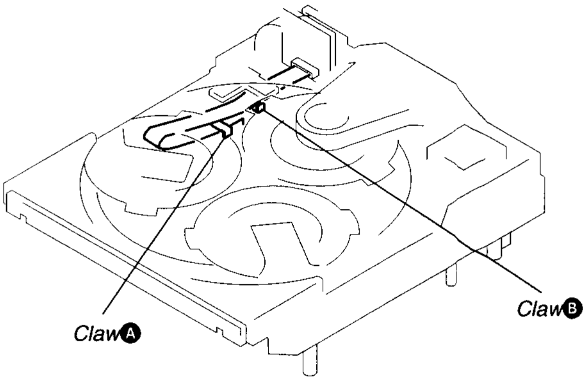


❸ *Flat type wire (8 core)*

❹ *Two claws*

❷ *Pull-out the disc tray.*
❺ *Remove the disc tray.*

❶ *Turn the cam the direction of arrow.*



Aging Mode

This mode can be used for checking the operations of the CD player and tape deck.

- When problems occur;
  Aging stops, and the stopped state is displayed on the fluorescent display tube.
- When no problems;
  Aging continues.

Preparations:

- Set the CD on the DISC1 tray.
- Insert a commercially available tape for recording (tapes which contents can be erased, etc.) in decks A and B.

Setting the aging mode:

Press the ■ button, ENTER/NEXT button, and DISC SKIP/EX-CHANGE button together.
When the aging mode is set, the CD roulette mark blinks. To exit the mode, press the I/⏻ button and turn OFF the power.

Sequence:

The aging mode is executed in the following sequence.
If the function is set to "CD" when the aging mode is set, aging is performed starting from the CD player. When set to "TAPE A" or "TAPE B", aging is started from deck A.
If the function is set to others, aging will not be started until the function is switched to CD or TAPE.

Aging of CD player (12 minutes)
↓
Aging of deck A
↓ } *Maximum about 12 minutes*
Aging of deck B
↓

Display of status:

- The aging status is displayed on the fluorescent display tube.
- Normally, the CD player displays the remaining aging time. But if operations ended abnormally, it displays the cause.
- During the aging of the tape deck, the operations performed will be displayed. If operations ended abnormally, this will be displayed at the fluorescent display tube.

CD Player

- During normal operations:
  Display of fluorescent display tube

`**1-@@`

**: Displays "CD" and the remaining aging time (minutes) alternately. The remaining aging time is counted down from 12.

@@: Track number being accessed.

• When operations end abnormally:

Display of fluorescent display tube

Display	Main Cause
NO DISC ERR	DISC 1 is NO DISC from the beginning
FOCUS1 ERR	Focus is not imposed properly
FOCUS2 ERR	The focus deviated several times after the disc rotated normally
GFS ERR	GFS ERROR
FBIAS ERR	Error during focus bias adjustment
SENSOR ERR	DISC 1 was found to be NO DISC by the disc sensor
TABLE ERR	The table did not rotate normally
TRAY ERR	The tray containing the BD did not operate normally

SECTION 4
SERVICE MODE

MC Cold Reset

- The cold reset clears all data including preset data stored in the RAM to initial conditions. Execute this mode when returning the set to the customer.

Procedure:

1. Press three buttons ■, ENTER/NEXT, and I/⏻ simultaneously.
2. The fluorescent indicator tube becomes blank instantaneously, and the set is reset.

CD Delivery Mode

- This mode moves the pick-up to the position durable to vibration. Use this mode when returning the set to the customer after repair.

Procedure:

1. Press I/⏻ button to turn the set ON.
2. Press LOOP button and I/⏻ button simultaneously.
3. A message "LOCK" is displayed on the fluorescent indicator tube, and the CD delivery mode is set.

MC Hot Reset

- This mode resets the set with the preset data kept stored in the memory. The hot reset mode functions same as if the power cord is plugged in and out.

Procedure:

1. Press three buttons ■, ENTER/NEXT, and DISC 1 simultaneously.
2. The fluorescent indicator tube becomes blank instantaneously, and the set is reset.

Sled Servo Mode

- This mode can run the CD sled motor freely. Use this mode, for instance, when cleaning the pick-up.

Procedure:

1. Select the function "CD".
2. Press three buttons ■, ENTER/NEXT, and ⏏ simultaneously.
3. The Sled Servo mode is selected, if "CD" is blanking on the fluorescent indicator tube.
4. With the CD in stop status, press ▶▶ + utton move the pick-up to outside track, or – ◀◀ button to inside track.
5. To exit from this mode, perform as follows:
   1) Move the pick-up to the most inside track.
   2) Press three buttons in the same manner as step 2.

Note:

- Always move the pick-up to most inside track when exiting from this mode. Otherwise, a disc will not be unloaded.
- Do not run the sled motor excessively, otherwise the gear can be chipped.

Change-over of AM Tuner Step between 9kHz and 10kHz

- A step of AM channels can be changed over between 9kHz and 10kHz.

Procedure:

1. Press I/⏻ button to turn the set ON.
2. Select the function "TUNER", and press TUNER/BAND button to select the BAND "AM".
3. Press I/⏻ button to turn the set OFF.
4. Press ENTER/NEXT and I/⏻ buttons simultaneously, and the display of fluorescent indicator tube changes to "AM 9k STEP" or "AM 10k STEP", and thus the channel step is changed over.

LED and Fluorescent Indicator Tube All Lit, Key Check Mode

Procedure:

1. Press three buttons ■, ENTER/NEXT, and DISC 2 simultaneously.
2. LEDs and fluorescent indicator tube are all turned on.
   Press DISC 2 button, and the key check mode is activated.
3. In the key check mode, the fluorescent indicator tube displays "K 1 V0 J0". Each time a button is pressed, "K"value increases. However, once a button is pressed, it is no longer taken into account.
   "J" Value increases like 1, 2, 3 ... if rotating JOG knob in "+" direction, or it decreases like 0, 9, 8 ... if rotating in "-" direction.
   "V" Value increases like 1, 2, 3 ... if rotating VOLUME knob in "+" direction, or it decreases like 0, 9, 8 ... if rotating in "–" direction.
4. To exit from this mode, press three buttons in the same manner as step 1, or disconnect the power cord.

Tape Deck

Display of Operations	Operation	Timing of Ending
TAPE A AG-1	TAPE A REW	Shutoff
TAPE A AG-2	TAPE A FWD	2 minute playback
TAPE A AG-3	TAPE A FF	20 seconds or shutoff
TAPE A AG-4	TAPE A REV	2 minutes playback
TAPE A AG-5	TAPE A REW	Shutoff
TAPE B AG-1	TAPE B REW	Shutoff
TAPE B AG-2	TAPE B FWD	2 minute playback
TAPE B AG-3	TAPE B FF	20 seconds or shutoff
TAPE B AG-4	TAPE B REV	2 minute playback
TAPE B AG-5	TAPE B REW	Shutoff

Operations during aging

- Operations are performed in the following sequence during aging

<CD player>

1. The CD tray rotates and disc 1 is selected.
2. Chucking is performed.
3. TOC is read.
4. Track 1 played back for 2 seconds.
5. The last track is played back for 2 seconds.
6. 1 to 5 is repeated.
7. After 12 minutes of aging, aging is switched to the tape deck.

<Tape Deck>

1. The tape in deck A is rewound to the head.
2. The FWD side is played back for 2 minutes.
3. The tape is fast forwarded (FF) for 20 seconds. The following procedure is performed when the tape end is reached before the 20 seconds.
4. The REV side is played back for 2 minutes.
5. The tape is rewound to the head (REW).
6. The tape in deck B is rewound to the head.
7. The FWD side is played back for 2 minutes.
8. The tape is fast forwarded (FF) for 20 seconds. The following procedure is performed when the tape end is reached before the 20 seconds.
9. The REV side is played back for 2 minutes.
10. The tape is rewound to the head (REW).
11. Aging is switched to the CD player.

SECTION 5
MECHANICAL ADJUSTMENTS

Precaution

1. Clean the following parts with a denatured alcohol-moistened swab:

record/playback heads	pinch rollers
erase head	rubber belts
capstan	idlers

2. Demagnetize the record/playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

Torque Measurement

Mode	Torque meter	Meter reading
FWD	CQ-102C	31 to 71 g • cm (0.43 – 0.98 oz • inch)
FWD back tension	CQ-102C	2 to 6 g • cm (0.02 – 0.08 oz • inch)
REV	CQ-102RC	31 to 71 g • cm (0.43 – 0.98 oz • inch)
REV back tension	CQ-102RC	2 to 6 g • cm (0.02 – 0.08 oz • inch)
FF/REW	CQ-201B	71 to 143 g • cm (0.98 – 1.99 oz • inch)
FWD tension	CQ-403A	100 g or more (3.53 oz or more)
REV tension	CQ-403R	100 g or more (3.53 oz or more)

SECTION 6
ELECTRICAL ADJUSTMENTS

DECK SECTION **0 dB=0.775V**

1. Demagnetize the record/playback head with a head damagnetizer.
2. Do not use a magnetized screwdriver for the adjustments.
3. After the adjustments, apply suitable locking compound to the parts adjusted.
4. The adjustments should be performed with the rated power supply voltage unless otherwise noted.
5. The adjustments should be performed in the order given in this service manual. (As a general rule, playback circuit adjustment should be completed before performing recording circuit adjustment.)
6. The adjustments should be performed for both L-CH and R-CH.
7. Switches and controls should be set as follows unless otherwise specified.

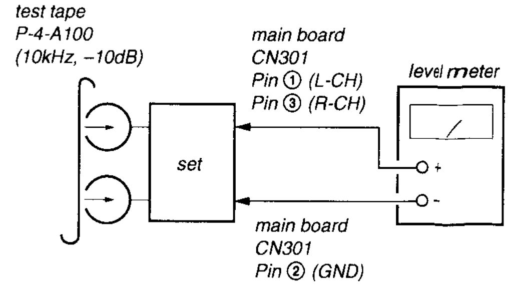
Tape	Signal	Used for
P-4-A100	10 kHz, –10 dB	Azimuth Adjustment
WS-48B	3 kHz, 0 dB	Tape Speed Adjustment
P-4-L300	315 Hz, 0 dB	Level Adjustment

Record/Playback Head Azimuth Adjustment (Deck A, Deck B)

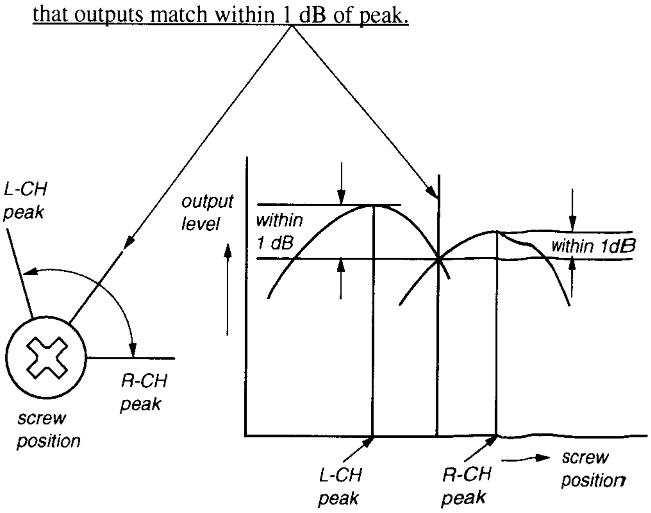
Note: Perform this adjustments for both decks.

Procedure:

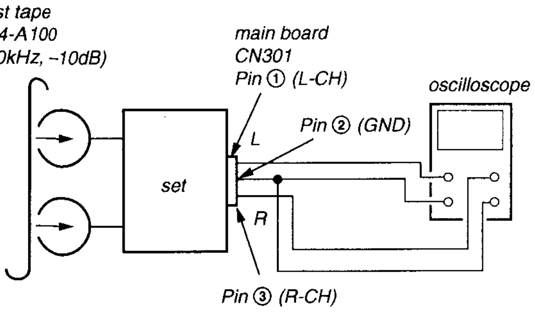
1. Mode : Playback

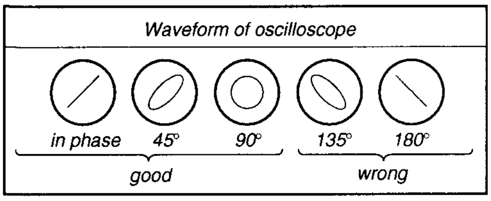


2. Turn the adjustment screw and check output peaks. If the peaks do not match for L-CH and R-CH, turn the adjustment screw so that outputs match within 1 dB of peak.



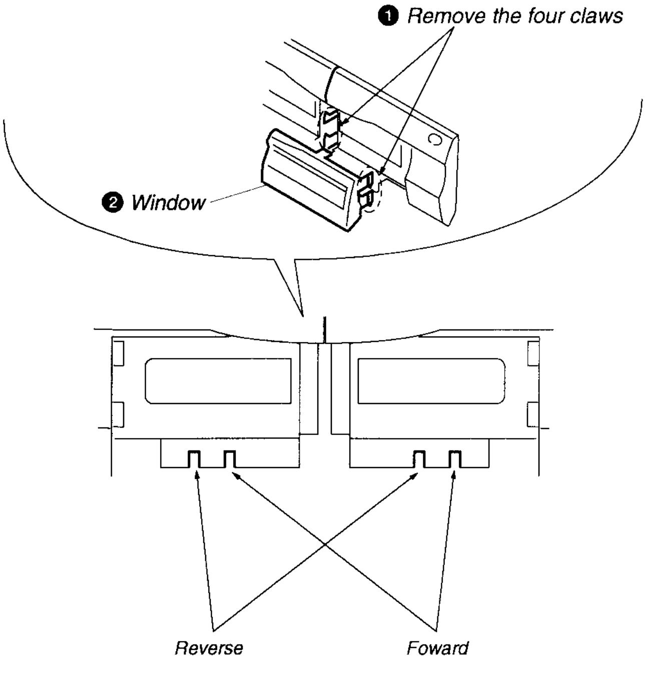
3. Mode: Playback


test tape
P-4-A100
(10kHz, –10dB)
main board
CN301
Pin ① (L-CH)
oscilloscope
Pin ② (GND)
L
set
R
Pin ③ (R-CH)


Waveform of oscilloscope
in phase
45°
90°
135°
180°
good
wrong

4. After the adjustments, apply suitable locking compound to the parts adjusted.

Adjustment Location: Playback Head (Deck A)
Record/Playback/Erase Head (Deck B)


❶ Remove the four claws
❷ Window
Reverse
Foward

Tape Speed Adjustment (Deck A)

Note: Set the test mode using the following method and begin tape speed adjustment.
In the test mode, the speed will switch to double speed or normal speed each time the HI-DUB button is pressed.

Procedure:
With the power turned ON, press the ■ button, ENTER/NEXT button, and DISC 3 button simultaneously.
(The "VOLUME" on the fluorescent display tube will blink while in the test mode.)
To exit the test mode, press the I/⏻ button.

1. Insert the WS-48B into deck B.
2. Press the ▷ button of deck B.
3. Press the HI-DUB button and play the tape at double speed.
4. Adjust RV1001 of the LEAF SW board so that the reading of the frequency counter becomes 6000 ± 180 Hz.
5. Press the HI-DUB button and play the tape at normal speed.
6. Adjust RV1002 of the LEAF SW board so that the reading of the frequency counter becomes 3000 ± 90 Hz.

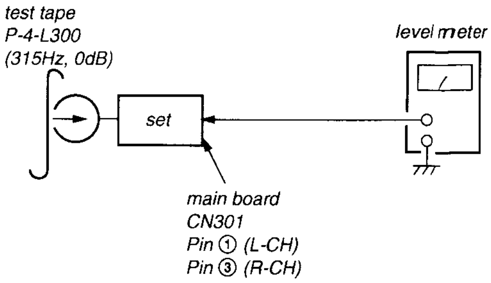
Adjustment Location: LEAF SW board

Sample Value of Wow and flutter

W.RMS (JIS) less than 0.3%
(test tape: WS-48B)

Playback Level Adjustment (Deck A, Deck B)

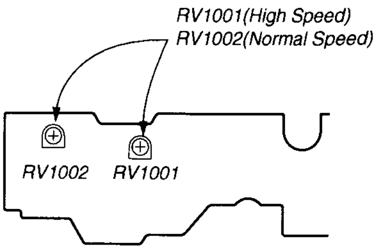
Procedure:
Mode: Playback


test tape
P-4-L300
(315Hz, 0dB)
level meter
set
main board
CN301
Pin ① (L-CH)
Pin ③ (R-CH)

Deck A is RV311 (L-CH) and RV411 (R-CH), deck **B** is RV301 (L-CH) and RV401 (R-CH)
so that adjustment within the following adjustment level.

Adjustment level:
CN301 playback level: 301.5 to 338.3 mV (–8.2 to -7.2 dB)
level difference between the channels: within ± 0.5 dB
Adjustment Location: AUDIO board

Adjustment Location
[LEAF SW BOARD]


RV1001(High Speed)
RV1002(Normal Speed)
RV1002
RV1001

Record Bias Adjustment (Deck B)

Procedure:

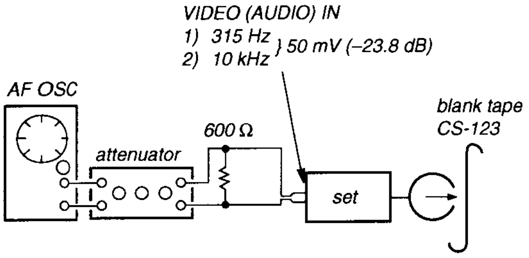
INTRODUCTION

When set to the test mode performed in **Tape Speed Adjustment**, when the tape is rewound after recording, the "REC memory mode" which rewinds only the recorded portion and playback is set.

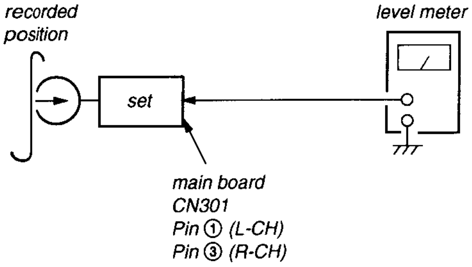
This "REC memory mode" is convenient for performing this adjustment. During recording, the input signal FUNCTION will automatically switch to VIDEO.

(After recording, press the [– ◀◀] button without stopping will return to the position where recording was started.)

1. Press [FUNCTION] button to select VIDEO. (This step is not necessary if the above test mode has already been set.)
2. Insert a tape into deck B, press the [● REC] button, and then press the [▶] button to start recording.
3. Mode: Record


VIDEO (AUDIO) IN
1) 315 Hz
2) 10 kHz
50 mV (-23.8 dB)
AF OSC
attenuator
600 Ω
blank tape
CS-123
set

4. Mode: Playback


recorded position
set
level meter
main board
CN301
Pin ① (L-CH)
Pin ③ (R-CH)

5. Confirm playback the signal recorded in step 2 become adjustment level as follows.
   If these levels do not adjustment level, adjust the RV341 (L-CH) and RV441 (R-CH) on the AUDIO board to repeat steps 3 and 4.

Adjustment level: The playback output of 10 kHz level difference against 315 Hz reference should be ± 1.0 dB.

Adjustment Location: AUDIO board

Record Level Adjustment (Deck B)

Procedure:

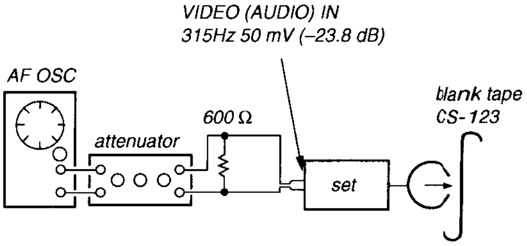
INTRODUCTION

When set to the test mode performed in **Tape Speed Adjustment**, when the tape is rewound after recording, the "REC memory mode" which rewinds only the recorded portion and playback is set.

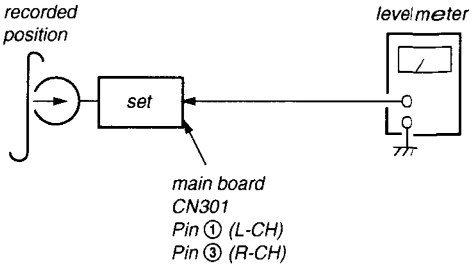
This "REC memory mode" is convenient for performing this adjustment. During recording, the input signal FUNCTION will automatically switch to VIDEO.

(After recording, press the [– ◀◀] button without stopping will return to the position where recording was started.)

1. Press [FUNCTION] button to select VIDEO. (This step is not necessary if the above test mode has already been set.)
2. Insert a tape into deck B, press the [● REC] button, and then press the [▶] button to start recording.
3. Mode: Record


VIDEO (AUDIO) IN
315Hz 50 mV (-23.8 dB)
AF OSC
attenuator
600 Ω
blank tape
CS-123
set

4. Mode: Playback


recorded position
set
level meter
main board
CN301
Pin ① (L-CH)
Pin ③ (R-CH)

5. Confirm playback the signal recorded in step 2 become adjustment level as follows.
   If these levels do not adjustment level, adjust the RV301 (L-CH) and RV351 (R-CH) on the MAIN board to repeat steps 3 and 4.

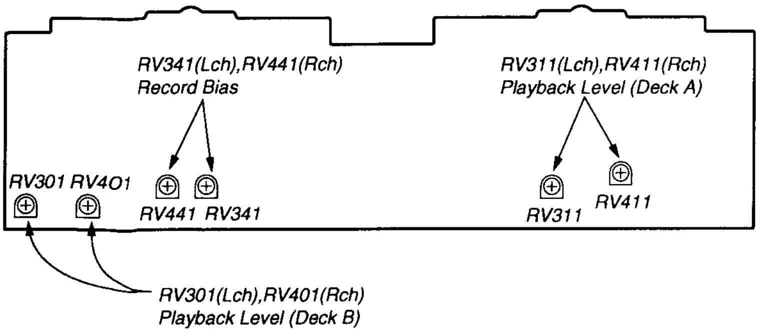
Adjustment level:

CN403 playback level: 47.2 to 53.0 mV (–24.3 to –23.3 dB)

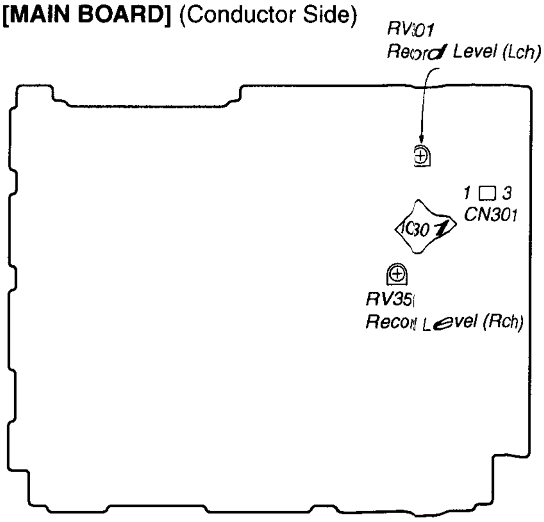
Adjustment Location: MAIN board

Adjustment Location:

[AUDIO BOARD] (Conductor Side)


RV341(Lch),RV441(Rch)
Record Bias
RV311(Lch),RV411(Rch)
Playback Level (Deck A)
RV301 RV401
RV441 RV341
RV311
RV411
RV301(Lch),RV401(Rch)
Playback Level (Deck B)

[MAIN BOARD] (Conductor Side)


RV301
Record Level (Lch)
1 □ 3
CN301
IC301
RV351
Record Level (Rch)

TUNER SECTION | 0dB=1μV

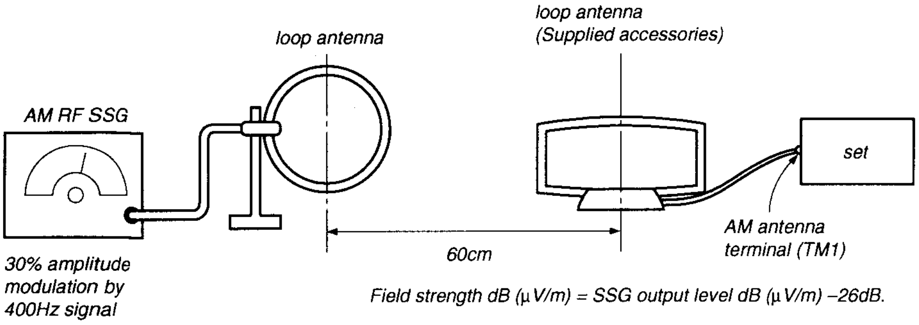
Note 1: As a front-end (FE1) is difficult to repair if faulty, replace it with new one.

Note 2: No adjustment is needed due to a tuner pack for except AEP, UK, German, East European, CIS models.

AM Tuned Level Adjustment
(AEP, UK, German, East European, CIS model only)

Note: FM Tuned Level adjustment should be performed after this AM Tuned Level Adjustment.

Setting:
Band: MW


loop antenna
loop antenna
(Supplied accessories)
AM RF SSG
set
AM antenna
terminal (TM1)
60cm
30% amplitude
modulation by
400Hz signal

Field strength dB (μV/m) = SSG output level dB (μV/m) −26dB.

Modulation: 999 kHz (at 9 kHz step)
1,050 kHz (at 10 kHz step)

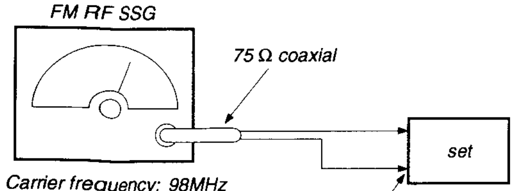
Procedure:
1. Set the output of SSG so that the input level of the set becomes 55 dB.
2. Tune the set to 999 kHz or 1,050 kHz.
3. Adjust RV41 to the point (moment) when the TUNED indicator will change from going off to going on.

Adjustment Location: TCB board

FM Tuned Level Adjustment
(AEP, UK, German, East European, CIS model only)

Note: This adjustment should be performed after the AM Tuned Level Adjustment.

Setting:
Band: FM

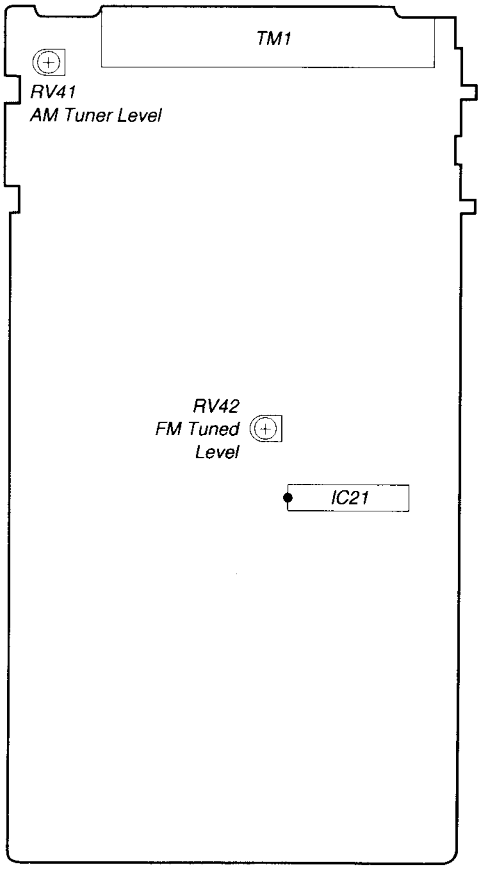

FM RF SSG
75 Ω coaxial
set
FM ANTENNA terminal (TM1)

Carrier frequency: 98MHz
Modulation: AUDIO 1kHz, 75kHz deviation (100%)
Output level: 25dB (at 75 Ω open)

Procedure:
1. Supply a 25 dB 98 MHz signal from the ANTENNA terminal.
2. Tune the set to 98 MHz.
3. Adjust RV42 to the point (moment) when the TUNED indicator will change from going off to going on.

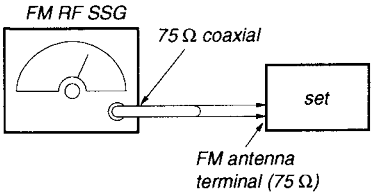
Adjustment Location: TCB board

Adjustment Location
[TCB BOARD] (Component Side)


TM1
RV41
AM Tuner Level
RV42
FM Tuned
Level
IC21

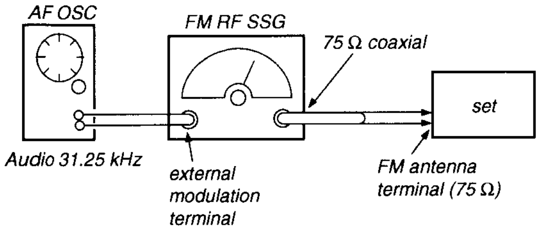
FM Polar Adjustment (East European, CIS model only)

Connection 1 :


FM RF SSG
75 Ω coaxial
set
FM antenna
terminal (75 Ω)

Carrier frequency: 69 MHz
Output level: 1 mV (60 dBμ) (at 75 Ω open)
Modulation: AUDIO 1 kHz, 10 kHz deviation

Connection 2 :


AF OSC
FM RF SSG
75 Ω coaxial
set
Audio 31.25 kHz
external
modulation
terminal
FM antenna
terminal (75 Ω)

Carrier frequency: 69 MHz
Output level: 1 mV (60 dBμ) (at 75 Ω open)
Modulation: AUDIO 31.25 kHz, 10 kHz deviation
(EXTERNAL MODULATION)

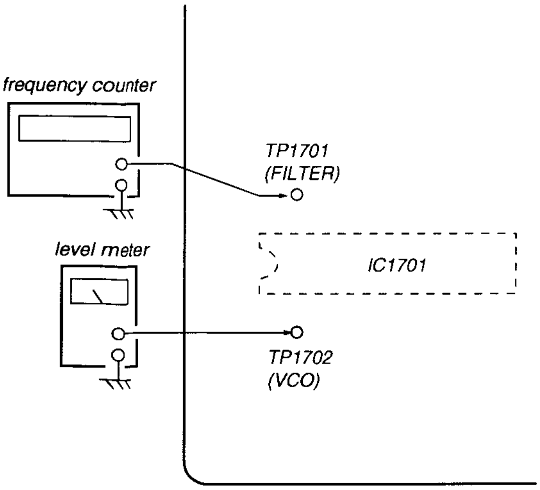
Procedure :

1. Set the modulation of FM RF SSG to AUDIO 1 kHz, 10 kHz deviation according to “Connection 1”.
2. Tune the set to 69 MHz.
3. Adjust the RV1702 so that the reading of frequency counter connected to TP1702 (VCO) becomes within 31.25 kHz ± 0.05 kHz. (VCO adjustment)
4. Then record the reading of the level meter connected to TP1701.
5. Set the modulation of FM RF SSG to AUDIO 31.25 kHz, 10 kHz deviation according to “Connection 2”.
6. Tune the set to 69 MHz.
7. Set the CT1701 to be mechanical center.
8. Adjust the L1701 so that the reading of the level meter connected to TP1701 (FILTER) becomes maximum.
   Then adjust the CT1701 so that the reading of the level meter connected to TP1701 (FILTER) becomes maximum. (SUB CARRIER PEAK Adjustment)
9. Adjust the RV1701 so that the level at the moment becomes 14 dB higher value than the level recorded in step 4. (SUB CARRIER LEVEL Adjustment)

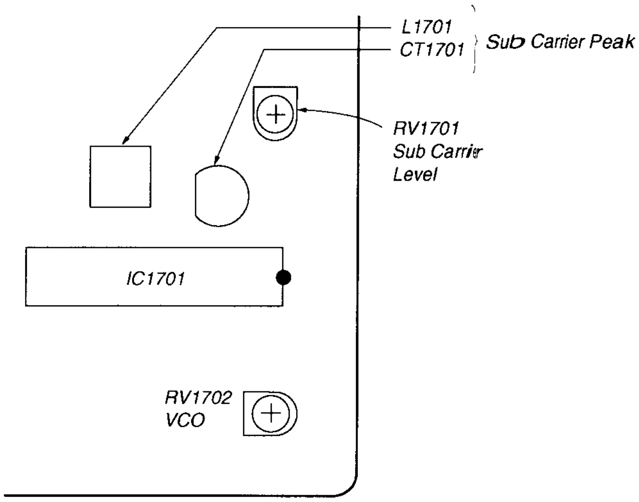
Adjustment Location: TCB board

Adjustment Location:

[TCB BOARD] (Conductor Side)


frequency counter
level meter
TP1701
(FILTER)
IC1701
TP1702
(VCO)

[TCB BOARD] (Component Side)

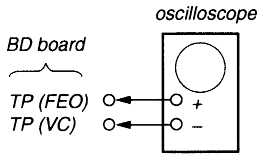

L1701
CT1701
Sub Carrier Peak
RV1701
Sub Carrier
Level
IC1701
RV1702
VCO

CD SECTION

Note:

1. CD Block is basically constructed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use an oscilloscope with more than 10M impedance.
4. Clean the object lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.

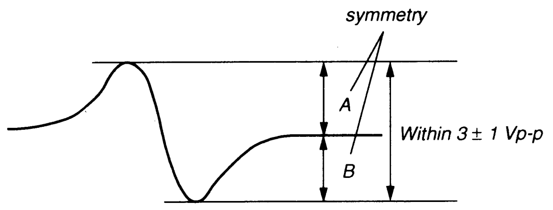
S Curve Check


oscilloscope
BD board
TP (FEO)
TP (VC)
+
–

Procedure :

1. Connect oscilloscope to test point TP (FEO).
2. Connect between test point TP (FOK) and Ground by lead wire.
3. Turn Power switch on.
4. Put disc (YEDS-18) in and turned Power switch on again and actuate the focus search. (actuate the focus search when disc table is moving in and out.)
5. Check the oscilloscope waveform (S-curve) is symmetrical between A and B. And confirm peak to peak level within 3 ± 1Vp-p.

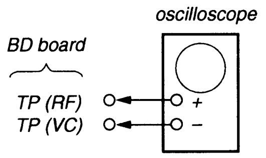
S-curve waveform



6. After check, remove the lead wire connected in step 2.

Note: • Try to measure several times to make sure than the ratio of A : B or B : A is more than 10 : 7.
• Take sweep time as long as possible and light up the brightness to obtain best waveform.

RF Level Check

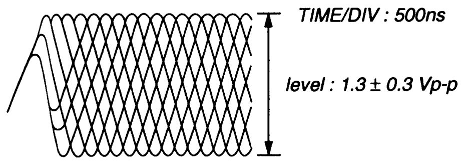

oscilloscope
BD board
TP (RF)
TP (VC)
+
–

Procedure :

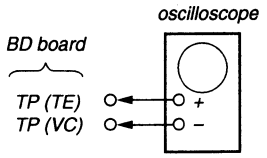
1. Connect oscilloscope to test point TP (RF) on BD board.
2. Turned Power switch on.
3. Put disc (YEDS-18) in and playback.
4. Confirm that oscilloscope waveform is clear and check RF signal level is correct or not.

Note: Clear RF signal waveform means that the shape "◊" can be clearly distinguished at the center of the waveform.

RF signal waveform



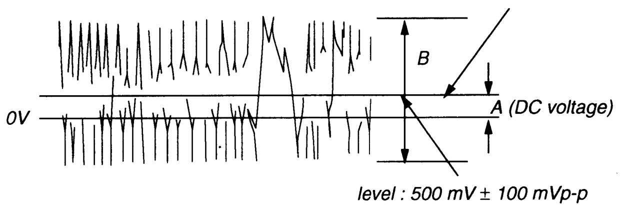
E-F Balance (Traverse) Check


oscilloscope
BD board
TP (TE)
TP (VC)
+
–

Procedure :

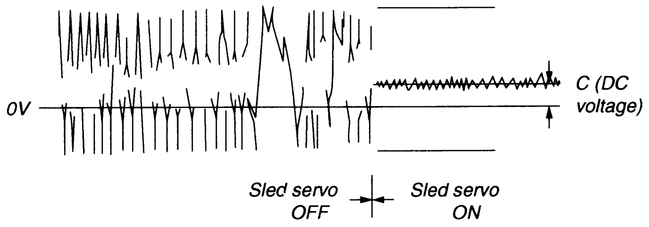
1. Connect oscilloscpe to test point TP (TEO) on BD board.
2. Turned Power switch on. Press FUNCTION button to select CD.
3. Put disc (YEDS-18) in to play the number five track.
4. Press the ■ button, ENTER/NEXT button and ▶II button simultaneously several times until the ''SHUFFLE'' on the fluorescent display tube blinks.
(The sledding servo is turned OFF.)
5. Check the level B of the oscilliscope's waveform and the A (DC voltage) of the center of the Traverse waveform.
Confirm the following :
A/B x 100 = less than ± 7%

Traverse waveform



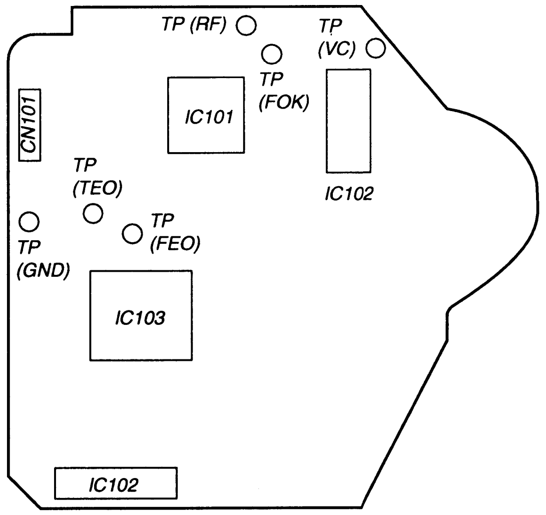
6. Press the ■ button, ENTER/NEXT button and ▶II button simultaneously several times until the ''SHUFFLE'' on the fluorescent display tube goes off. (The tracking servo and sledding servo are turned ON.) Confirm the C (DC voltage) is almost equal to the A (DC voltage) is step 5.

Traverse waveform



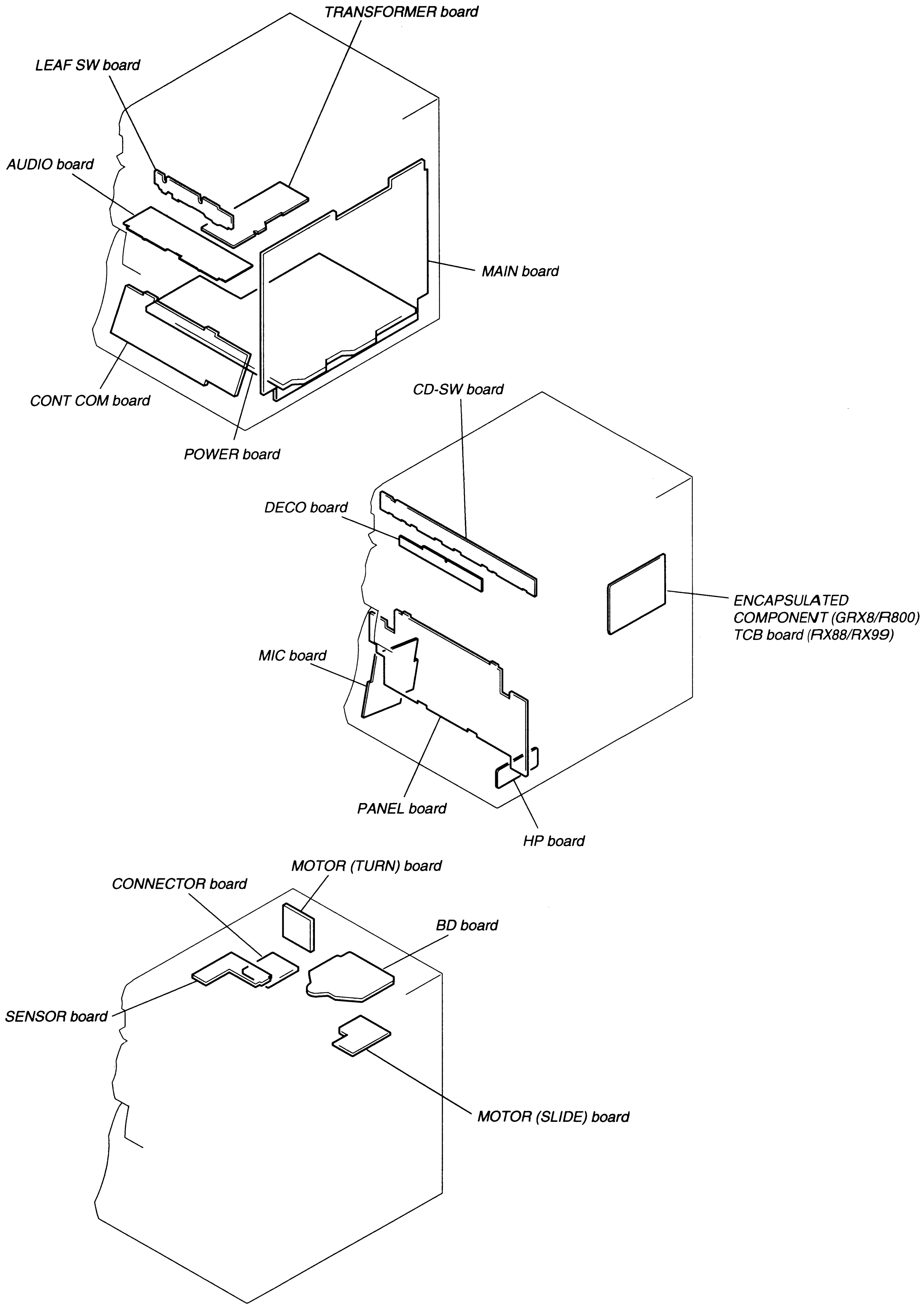
Adjustment Location :

[BD BOARD] — SIDE A —

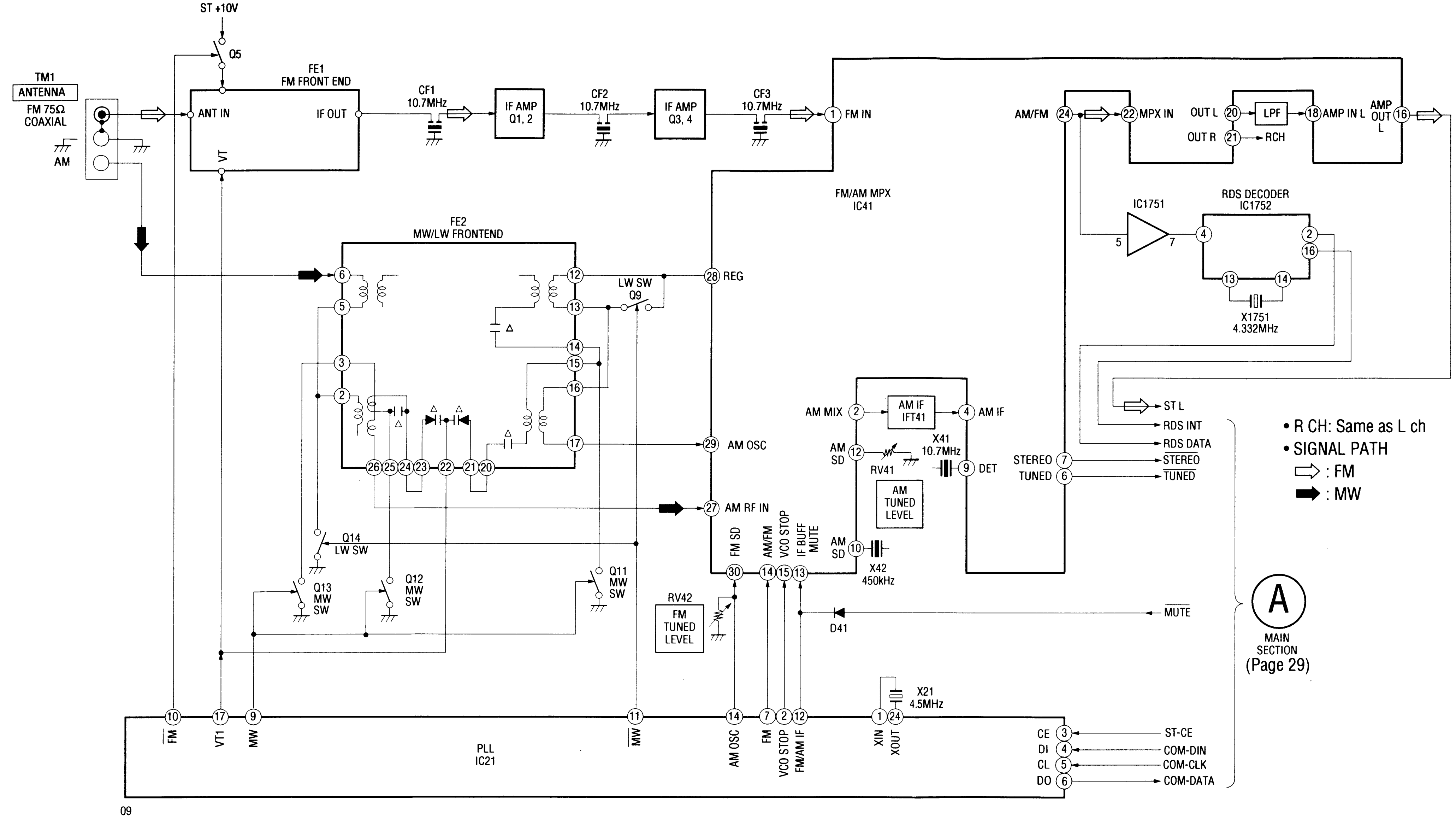

TP (RF)
TP (VC)
TP (FOK)
IC101
CN101
IC102
TP (TEO)
TP (GND)
TP (FEO)
IC103
IC102

SECTION 7
DIAGRAMS

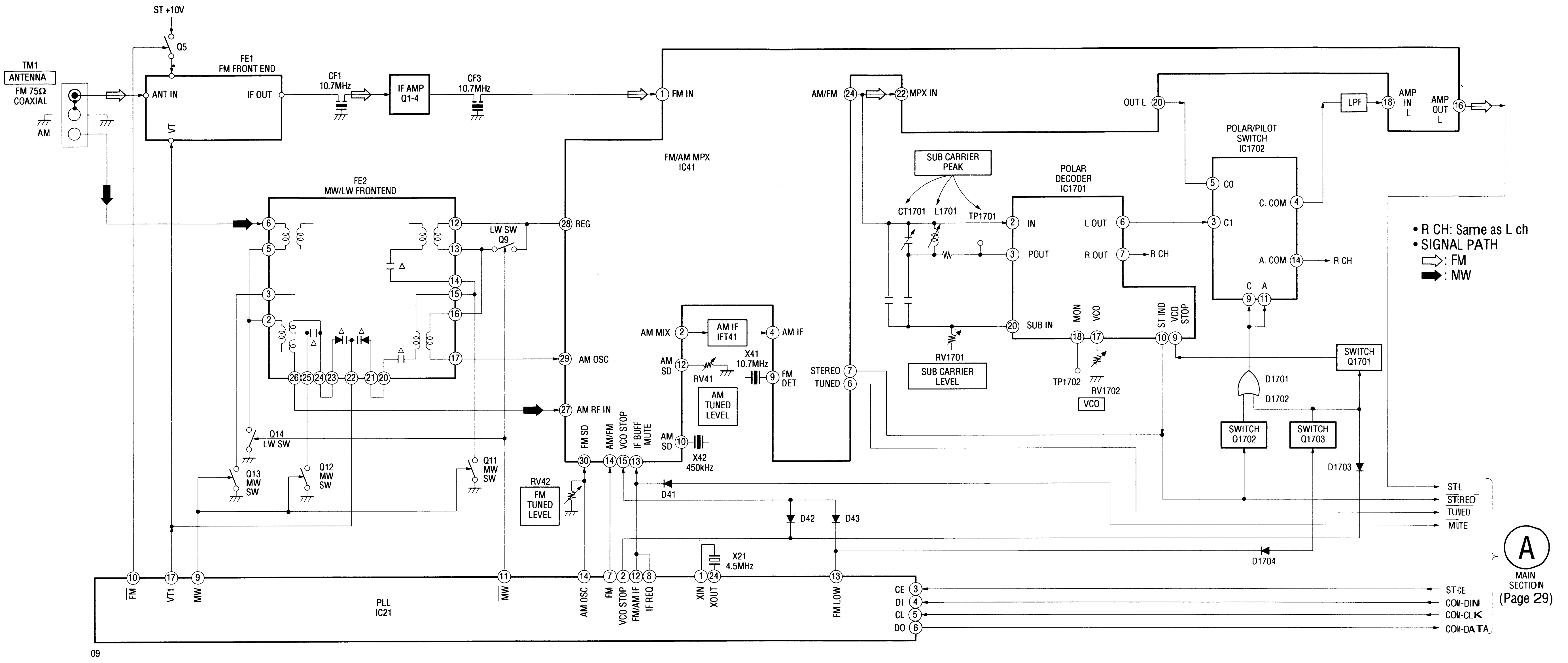
7-1. CIRCUIT BOARDS LOCATION


TRANSFORMER board
LEAF SW board
AUDIO board
MAIN board
CONT COM board
POWER board
CD-SW board
DECO board
ENCAPSULATED COMPONENT (GRX8/R800)
TCB board (RX88/RX99)
MIC board
PANEL board
HP board
MOTOR (TURN) board
CONNECTOR board
BD board
SENSOR board
MOTOR (SLIDE) board

7-2. BLOCK DIAGRAMS
– TUNER SECTION – (AEP, UK, German model)

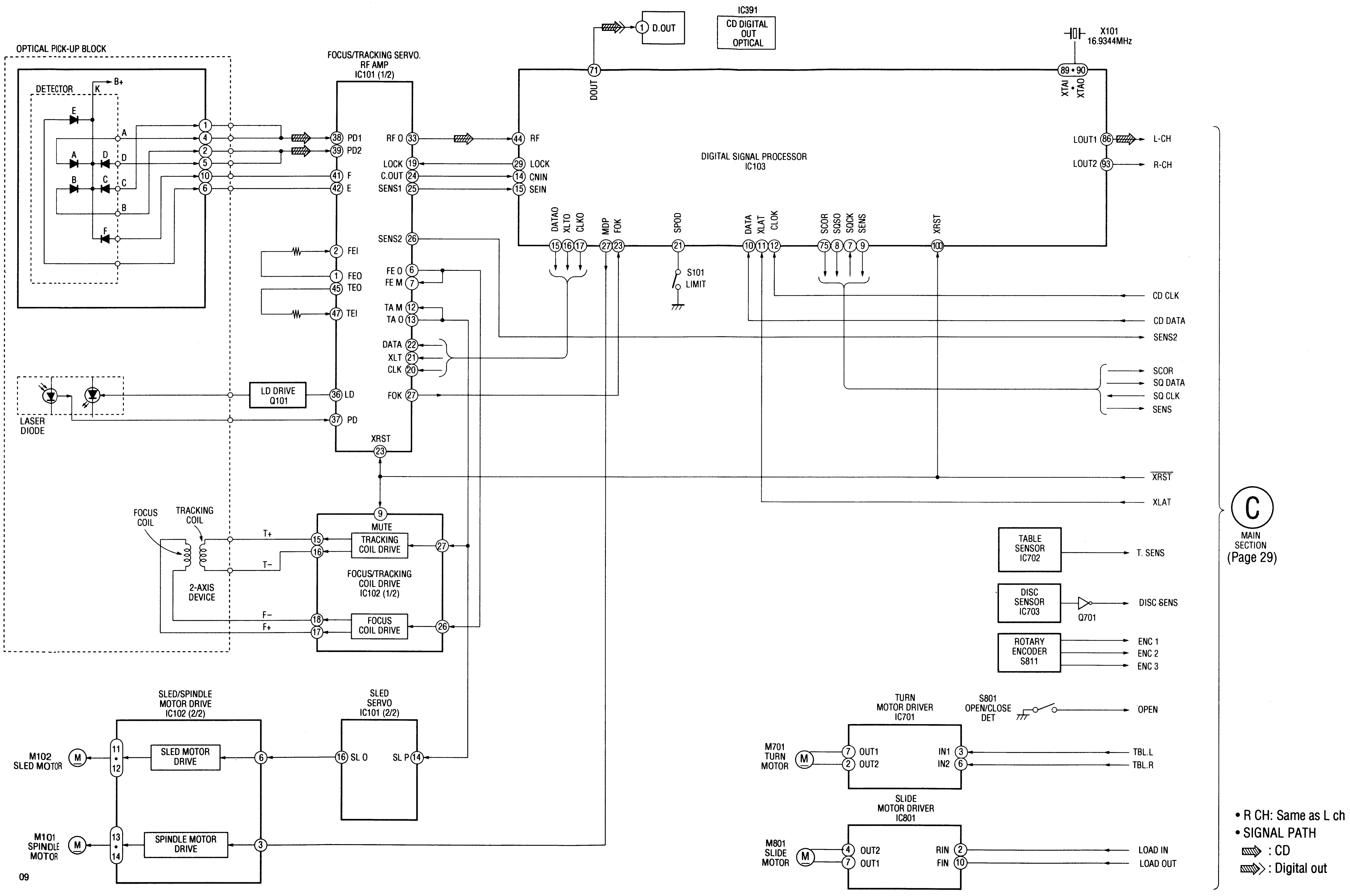

ST +10V
Q5
TM1
ANTENNA
FM 75Ω
COAXIAL
AM
FE1
FM FRONT END
ANT IN
IF OUT
VT
CF1
10.7MHz
IF AMP
Q1, 2
CF2
10.7MHz
IF AMP
Q3, 4
CF3
10.7MHz
1 FM IN
FM/AM MPX
IC41
AM/FM 24
22 MPX IN
OUT L 20
LPF
18 AMP IN L
AMP OUT L 16
OUT R 21
RCH
IC1751
RDS DECODER
IC1752
X1751
4.332MHz
FE2
MW/LW FRONTEND
LW SW
Q9
28 REG
29 AM OSC
27 AM RF IN
AM MIX 2
AM IF
IFT41
4 AM IF
AM SD 12
RV41
X41
10.7MHz
9 DET
AM TUNED LEVEL
AM SD 10
X42
450kHz
FM SD
AM/FM
VCO STOP
IF BUFF MUTE
30 14 15 13
RV42
FM TUNED LEVEL
D41
STEREO 7
TUNED 6
ST L
RDS INT
RDS DATA
STEREO
TUNED
MUTE
Q14
LW SW
Q13
MW SW
Q12
MW SW
Q11
MW SW
X21
4.5MHz
FM
VT1
MW
PLL
IC21
MW
AM OSC
FM
VCO STOP
FM/AM IF
XIN
XOUT
CE 3
DI 4
CL 5
DO 6
ST-CE
COM-DIN
COM-CLK
COM-DATA
A
MAIN SECTION
(Page 29)
09
• R CH: Same as L ch
• SIGNAL PATH
⇨ : FM
➡ : MW

– TUNER SECTION – (East European, CIS model)


ST +10V
Q5
TM1
ANTENNA
FM 75Ω
COAXIAL
AM
FE1
FM FRONT END
ANT IN
IF OUT
VT
CF1
10.7MHz
IF AMP
Q1-4
CF3
10.7MHz
FM IN
FM/AM MPX
IC41
FE2
MW/LW FRONTEND
LW SW
Q9
REG
AM OSC
AM RF IN
Q14
LW SW
Q13
MW
SW
Q12
MW
SW
Q11
MW
SW
RV42
FM
TUNED
LEVEL
FM SD
AM/FM
VCO STOP
IF BUFF
MUTE
AM MIX
AM IF
IFT41
AM IF
AM
SD
RV41
X41
10.7MHz
FM
DET
AM
TUNED
LEVEL
AM
SD
X42
450kHz
STEREO
TUNED
D41
D42
D43
X21
4.5MHz
AM/FM
MPX IN
SUB CARRIER
PEAK
CT1701
L1701
TP1701
POLAR
DECODER
IC1701
IN
POUT
SUB IN
L OUT
R OUT
R CH
MON
VCO
ST IND
VCO
STOP
RV1701
SUB CARRIER
LEVEL
TP1702
RV1702
VCO
OUT L
POLAR/PILOT
SWITCH
IC1702
CO
C1
C. COM
A. COM
R CH
C
A
LPF
AMP
IN
L
AMP
OUT
L
SWITCH
Q1701
D1701
D1702
SWITCH
Q1702
SWITCH
Q1703
D1703
D1704
ST-L
STEREO
TUNED
MUTE
FM
VT1
MW
PLL
IC21
MW
AM OSC
FM
VCO STOP
FM/AM IF
IF REQ
XIN
XOUT
FM LOW
CE
DI
CL
DO
ST-CE
COM-DIN
COM-CLK
COM-DATA
A
MAIN
SECTION
(Page 29)
09

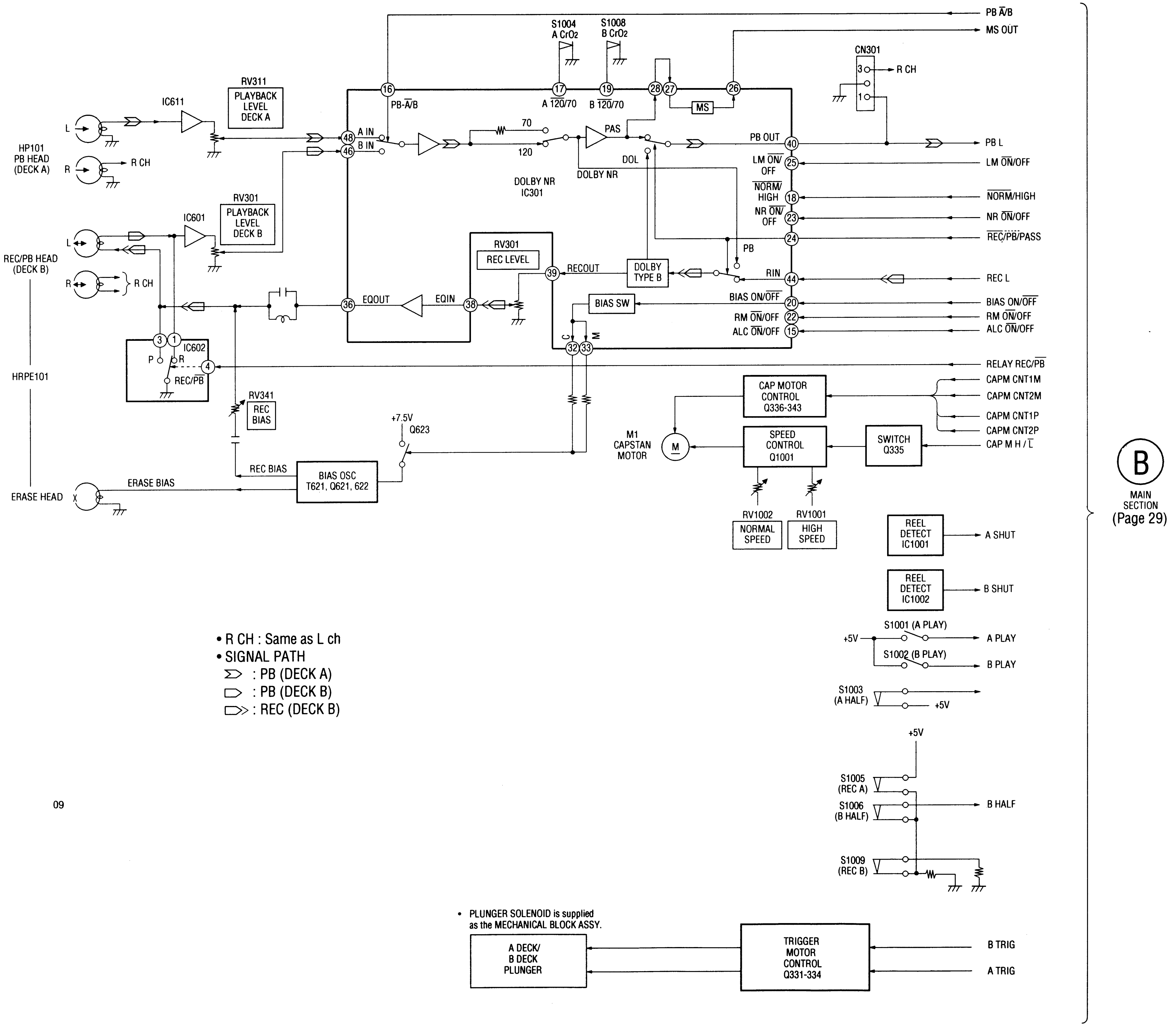
- R CH: Same as L ch
- SIGNAL PATH
  ⇨: FM
  ➡: MW

– CD SECTION –


OPTICAL PICK-UP BLOCK
DETECTOR
B+
K
E
A
D
B
C
F
LASER DIODE
FOCUS COIL
TRACKING COIL
2-AXIS DEVICE
T+
T–
F–
F+
FOCUS/TRACKING SERVO. RF AMP IC101 (1/2)
PD1
PD2
F
E
FEI
FEO
TEO
TEI
LD
PD
RF O
LOCK
C.OUT
SENS1
SENS2
FE O
FE M
TA M
TA O
DATA
XLT
CLK
FOK
XRST
LD DRIVE Q101
MUTE
TRACKING COIL DRIVE
FOCUS/TRACKING COIL DRIVE IC102 (1/2)
FOCUS COIL DRIVE
SLED/SPINDLE MOTOR DRIVE IC102 (2/2)
SLED MOTOR DRIVE
SPINDLE MOTOR DRIVE
M102 SLED MOTOR
M101 SPINDLE MOTOR
SLED SERVO IC101 (2/2)
SL O
SL P
09
D.OUT
IC391 CD DIGITAL OUT OPTICAL
DOUT
X101 16.9344MHz
XTAI • XTAO
DIGITAL SIGNAL PROCESSOR IC103
RF
LOCK
CNIN
SEIN
DATAO
XLTO
CLKO
MDP
FOK
SPOD
DATA
XLAT
CLOK
SCOR
SQSO
SQCK
SENS
XRST
S101 LIMIT
LOUT1
LOUT2
L-CH
R-CH
CD CLK
CD DATA
SENS2
SCOR
SQ DATA
SQ CLK
SENS
XRST
XLAT
TABLE SENSOR IC702
T. SENS
DISC SENSOR IC703
Q701
DISC SENS
ROTARY ENCODER S811
ENC 1
ENC 2
ENC 3
S801 OPEN/CLOSE DET
OPEN
TURN MOTOR DRIVER IC701
M701 TURN MOTOR
OUT1
OUT2
IN1
IN2
TBL.L
TBL.R
SLIDE MOTOR DRIVER IC801
M801 SLIDE MOTOR
OUT2
OUT1
RIN
FIN
LOAD IN
LOAD OUT
C
MAIN SECTION
(Page 29)

- R CH: Same as L ch
- SIGNAL PATH
  ▨ : CD
  ▨ : Digital out

– DECK SECTION –


PB A/B
MS OUT
S1004 A CrO2
S1008 B CrO2
CN301
R CH
RV311 PLAYBACK LEVEL DECK A
IC611
HP101 PB HEAD (DECK A)
L
R
R CH
PB-A/B
A 120/70
B 120/70
MS
A IN
B IN
70
120
PAS
DOL
DOLBY NR
DOLBY NR IC301
PB OUT
LM ON/OFF
NORM/HIGH
NR ON/OFF
PB
RIN
PB L
LM ON/OFF
NORM/HIGH
NR ON/OFF
REC/PB/PASS
REC L
RV301 PLAYBACK LEVEL DECK B
IC601
REC/PB HEAD (DECK B)
R CH
RV301 REC LEVEL
RECOUT
DOLBY TYPE B
EQOUT
EQIN
BIAS SW
BIAS ON/OFF
RM ON/OFF
ALC ON/OFF
BIAS ON/OFF
RM ON/OFF
ALC ON/OFF
C
M
IC602
P
R
REC/PB
HRPE101
RELAY REC/PB
RV341 REC BIAS
+7.5V
Q623
CAP MOTOR CONTROL Q336-343
CAPM CNT1M
CAPM CNT2M
CAPM CNT1P
CAPM CNT2P
CAP M H / L
M1 CAPSTAN MOTOR
M
SPEED CONTROL Q1001
SWITCH Q335
REC BIAS
BIAS OSC T621, Q621, 622
ERASE HEAD
ERASE BIAS
RV1002 NORMAL SPEED
RV1001 HIGH SPEED
REEL DETECT IC1001
A SHUT
REEL DETECT IC1002
B SHUT
+5V
S1001 (A PLAY)
A PLAY
S1002 (B PLAY)
B PLAY
S1003 (A HALF)
+5V
+5V
S1005 (REC A)
S1006 (B HALF)
B HALF
S1009 (REC B)
A DECK/ B DECK PLUNGER
TRIGGER MOTOR CONTROL Q331-334
B TRIG
A TRIG
B
MAIN SECTION
(Page 29)

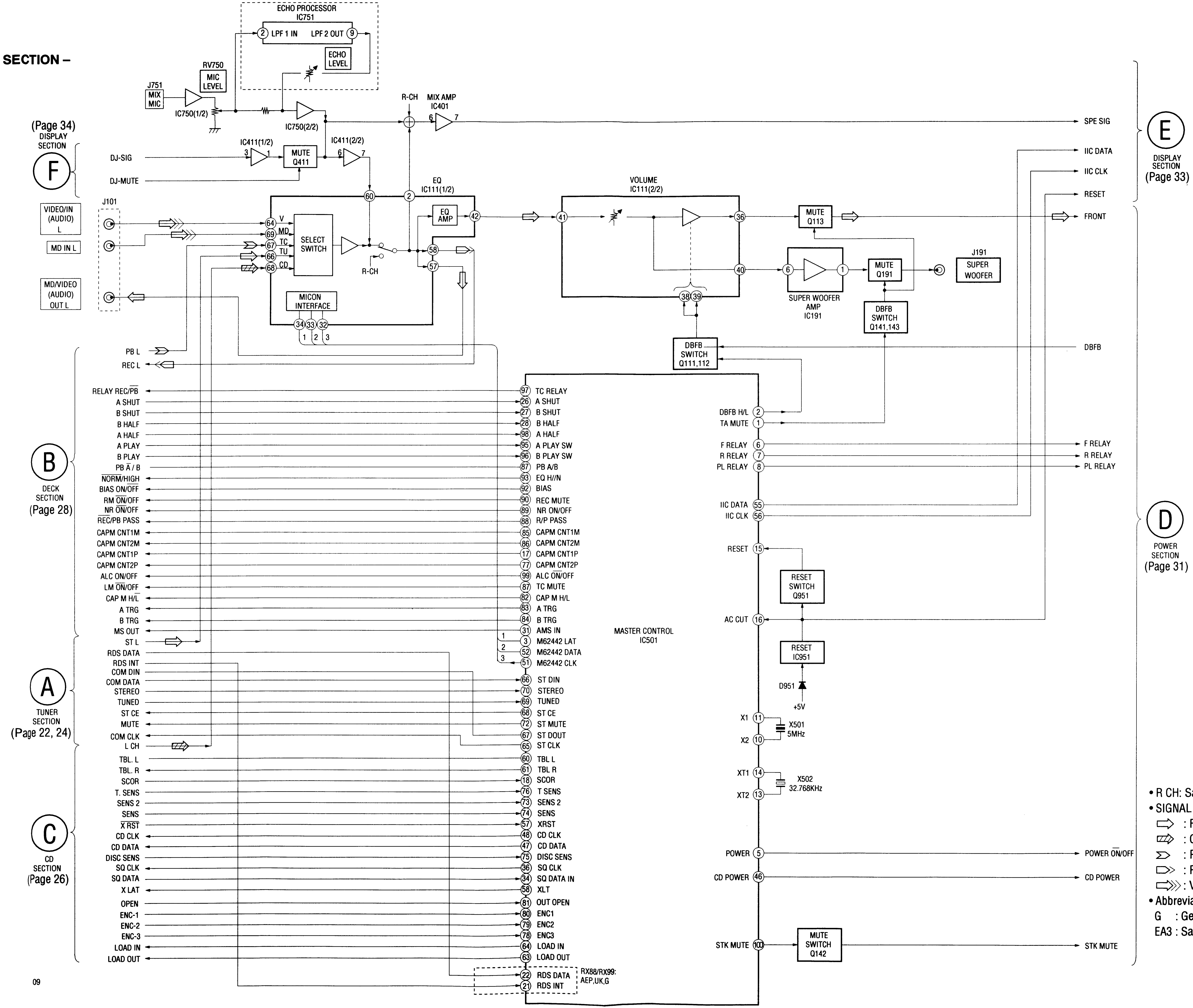
- R CH : Same as L ch
- SIGNAL PATH

⊳ : PB (DECK A)
▭ : PB (DECK B)
▭> : REC (DECK B)

- PLUNGER SOLENOID is supplied as the MECHANICAL BLOCK ASSY.

09

– MAIN SECTION –


GRX8:EA3
ECHO PROCESSOR
IC751
LPF 1 IN
LPF 2 OUT
ECHO LEVEL
RV750
MIC LEVEL
J751
MIX MIC
IC750(1/2)
IC750(2/2)
R-CH
MIX AMP
IC401
SPE SIG
IIC DATA
IIC CLK
RESET
(Page 33)
DISPLAY SECTION
E
(Page 34)
DISPLAY SECTION
F
DJ-SIG
DJ-MUTE
IC411(1/2)
MUTE
Q411
IC411(2/2)
EQ
IC111(1/2)
VOLUME
IC111(2/2)
J101
VIDEO/IN (AUDIO) L
MD IN L
MD/VIDEO (AUDIO) OUT L
V
MD
TC
TU
CD
SELECT SWITCH
R-CH
EQ AMP
MICON INTERFACE
MUTE
Q113
FRONT
SUPER WOOFER AMP
IC191
MUTE
Q191
J191
SUPER WOOFER
DBFB SWITCH
Q141,143
DBFB SWITCH
Q111,112
DBFB
PB L
REC L
RELAY REC/PB
A SHUT
B SHUT
B HALF
A HALF
A PLAY
B PLAY
PB A / B
NORM/HIGH
BIAS ON/OFF
RM ON/OFF
NR ON/OFF
REC/PB PASS
CAPM CNT1M
CAPM CNT2M
CAPM CNT1P
CAPM CNT2P
ALC ON/OFF
LM ON/OFF
CAP M H/L
A TRG
B TRG
MS OUT
ST L
RDS DATA
RDS INT
COM DIN
COM DATA
STEREO
TUNED
ST CE
MUTE
COM CLK
L CH
TBL. L
TBL. R
SCOR
T. SENS
SENS 2
SENS
X RST
CD CLK
CD DATA
DISC SENS
SQ CLK
SQ DATA
X LAT
OPEN
ENC-1
ENC-2
ENC-3
LOAD IN
LOAD OUT
B
DECK SECTION
(Page 28)
A
TUNER SECTION
(Page 22, 24)
C
CD SECTION
(Page 26)
97 TC RELAY
26 A SHUT
27 B SHUT
28 B HALF
98 A HALF
95 A PLAY SW
96 B PLAY SW
87 PB A/B
93 EQ H/N
92 BIAS
90 REC MUTE
89 NR ON/OFF
88 R/P PASS
85 CAPM CNT1M
86 CAPM CNT2M
17 CAPM CNT1P
77 CAPM CNT2P
99 ALC ON/OFF
87 TC MUTE
82 CAP M H/L
83 A TRG
84 B TRG
31 AMS IN
3 M62442 LAT
52 M62442 DATA
51 M62442 CLK
66 ST DIN
70 STEREO
69 TUNED
68 ST CE
72 ST MUTE
67 ST DOUT
65 ST CLK
60 TBL L
61 TBL R
18 SCOR
76 T SENS
73 SENS 2
74 SENS
57 XRST
48 CD CLK
47 CD DATA
75 DISC SENS
36 SQ CLK
34 SQ DATA IN
58 XLT
81 OUT OPEN
80 ENC1
79 ENC2
78 ENC3
64 LOAD IN
63 LOAD OUT
22 RDS DATA
21 RDS INT
RX88/RX99: AEP,UK,G
MASTER CONTROL
IC501
DBFB H/L 2
TA MUTE 1
F RELAY 6
R RELAY 7
PL RELAY 8
IIC DATA 55
IIC CLK 56
RESET 15
AC CUT 16
X1 11
X2 10
XT1 14
XT2 13
POWER 5
CD POWER 46
STK MUTE 100
RESET SWITCH
Q951
RESET
IC951
D951
+5V
X501
5MHz
X502
32.768KHz
MUTE SWITCH
Q142
F RELAY
R RELAY
PL RELAY
POWER ON/OFF
CD POWER
STK MUTE
D
POWER SECTION
(Page 31)

- R CH: Same as L ch
- SIGNAL PATH

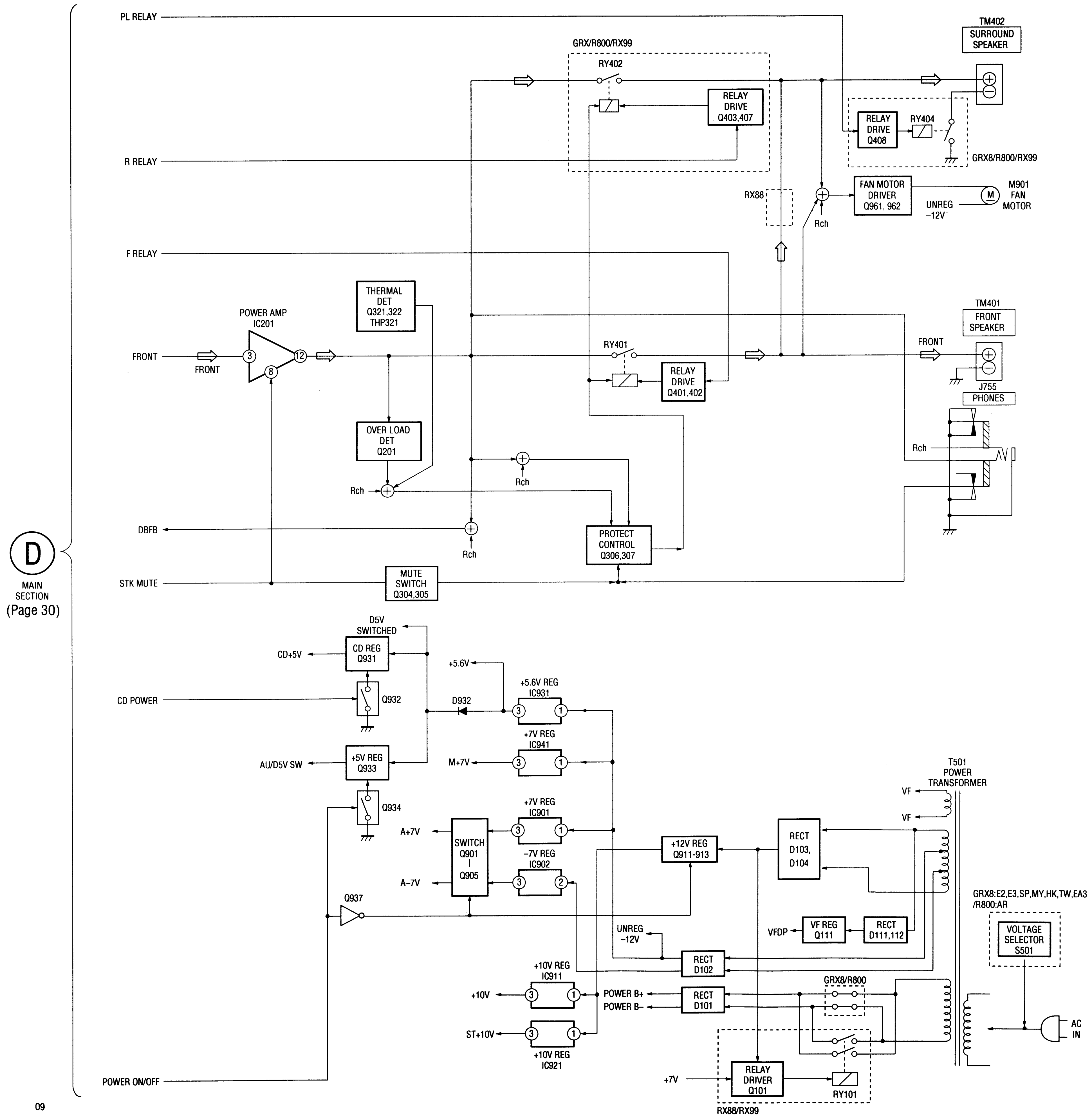
⇨ : FM
▨⇨ : CD
⊳ : PB
⇨> : REC
⇨>>> : VIDEO/MD

- Abbreviation

G : German model.
EA3 : Saudi Arabia model.

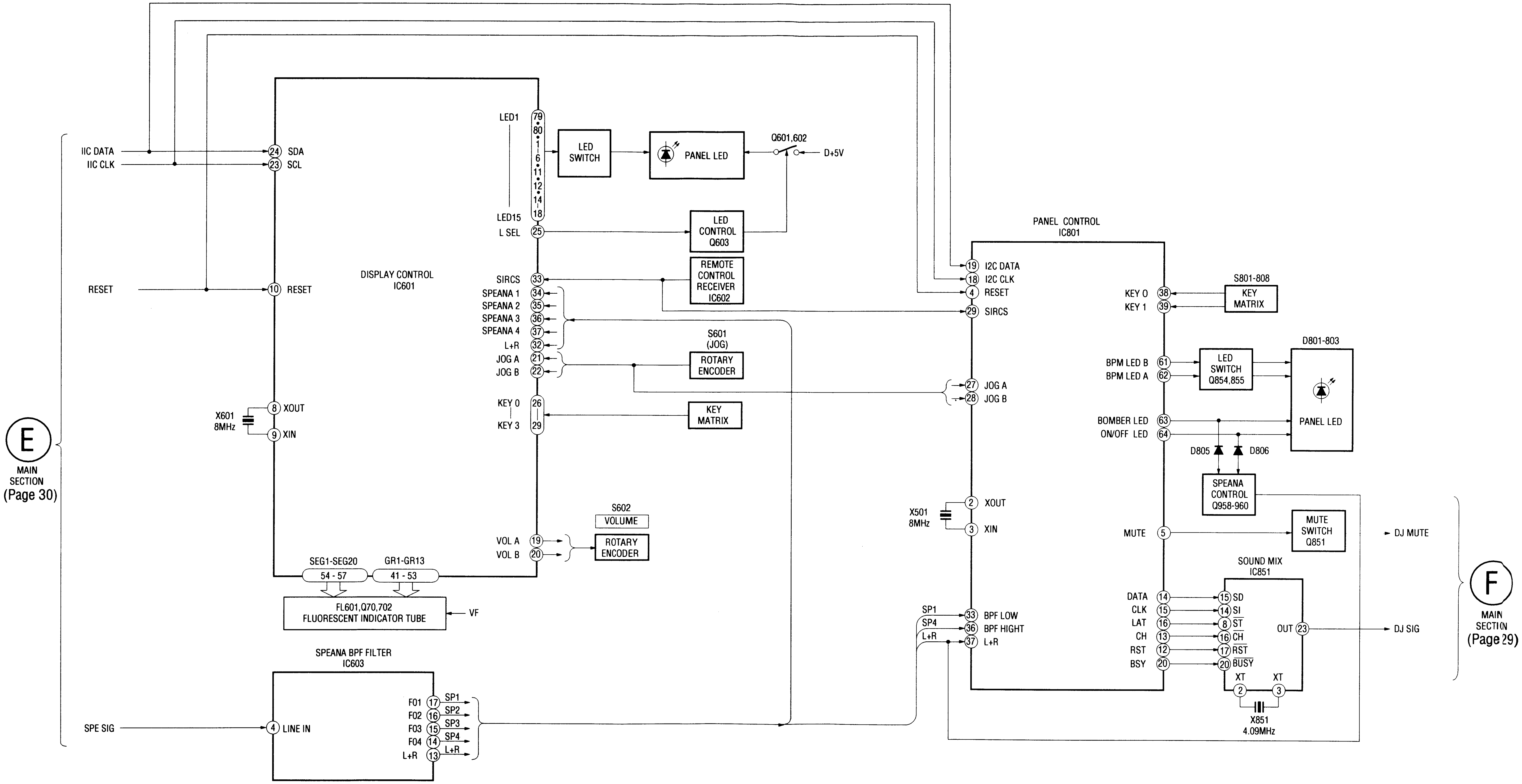
09

– POWER SECTION –


PL RELAY
R RELAY
F RELAY
FRONT
DBFB
STK MUTE
CD POWER
POWER ON/OFF
D
MAIN
SECTION
(Page 30)
GRX/R800/RX99
RY402
RELAY
DRIVE
Q403,407
TM402
SURROUND
SPEAKER
RELAY
DRIVE
Q408
RY404
GRX8/R800/RX99
RX88
Rch
FAN MOTOR
DRIVER
Q961, 962
UNREG
–12V
M
M901
FAN
MOTOR
THERMAL
DET
Q321,322
THP321
POWER AMP
IC201
3
8
12
FRONT
RY401
RELAY
DRIVE
Q401,402
TM401
FRONT
SPEAKER
FRONT
J755
PHONES
OVER LOAD
DET
Q201
Rch
Rch
Rch
Rch
PROTECT
CONTROL
Q306,307
MUTE
SWITCH
Q304,305
D5V
SWITCHED
CD+5V
CD REG
Q931
Q932
+5.6V
+5.6V REG
IC931
D932
3
1
+7V REG
IC941
M+7V
3
1
AU/D5V SW
+5V REG
Q933
Q934
+7V REG
IC901
A+7V
SWITCH
Q901
|
Q905
3
1
–7V REG
IC902
A–7V
3
2
Q937
+12V REG
Q911-913
RECT
D103,
D104
T501
POWER
TRANSFORMER
VF
VF
VFDP
VF REG
Q111
RECT
D111,112
UNREG
–12V
RECT
D102
+10V REG
IC911
+10V
3
1
POWER B+
POWER B–
RECT
D101
GRX8/R800
ST+10V
3
1
+10V REG
IC921
+7V
RELAY
DRIVER
Q101
RY101
RX88/RX99
GRX8:E2,E3,SP,MY,HK,TW,EA3
/R800:AR
VOLTAGE
SELECTOR
S501
AC
IN

- R CH : Same as L ch
- SIGNAL PATH
  ⇨ : FM
- Abbreviation
  E2 : Without SW tuner E model.
  E3 : Without SW tuner E model.
  EA3 : Saudi Arabia model.
  SP : Singapore model.
  MY : Malaysia model.
  HK : Hong Kong model.
  TW : Taiwan model.
  AR :Argentine model.

– DISPLAY SECTION –



E
MAIN SECTION
(Page 30)
IIC DATA
IIC CLK
RESET
SPE SIG
X601
8MHz
DISPLAY CONTROL
IC601
24 SDA
23 SCL
10 RESET
8 XOUT
9 XIN
LED1
79 80 1 6 11 12 14 18
LED15
L SEL 25
SIRCS 33
SPEANA 1 34
SPEANA 2 35
SPEANA 3 36
SPEANA 4 37
L+R 32
JOG A 21
JOG B 22
KEY 0 26
KEY 3 29
VOL A 19
VOL B 20
SEG1-SEG20
54 - 57
GR1-GR13
41 - 53
FL601,Q70,702
FLUORESCENT INDICATOR TUBE
VF
LED SWITCH
PANEL LED
Q601,602
D+5V
LED CONTROL
Q603
REMOTE CONTROL RECEIVER
IC602
S601
(JOG)
ROTARY ENCODER
KEY MATRIX
S602
VOLUME
ROTARY ENCODER
SPEANA BPF FILTER
IC603
4 LINE IN
F01 17 SP1
F02 16 SP2
F03 15 SP3
F04 14 SP4
L+R 13 L+R
PANEL CONTROL
IC801
19 I2C DATA
18 I2C CLK
4 RESET
29 SIRCS
27 JOG A
28 JOG B
X501
8MHz
2 XOUT
3 XIN
SP1
SP4
L+R
33 BPF LOW
36 BPF HIGHT
37 L+R
KEY 0 38
KEY 1 39
S801-808
KEY MATRIX
BPM LED B 61
BPM LED A 62
LED SWITCH
Q854,855
D801-803
PANEL LED
BOMBER LED 63
ON/OFF LED 64
D805
D806
SPEANA CONTROL
Q958-960
MUTE 5
MUTE SWITCH
Q851
DJ MUTE
SOUND MIX
IC851
DATA 14
CLK 15
LAT 16
CH 13
RST 12
BSY 20
15 SD
14 SI
8 ST
16 CH
17 RST
20 BUSY
XT 2
XT 3
OUT 23
X851
4.09MHz
DJ SIG
F
MAIN SECTION
(Page 29)

09

THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this, the necessary note is printed in each block.)

For schematic diagrams.
Note:
- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¹/₄ W or less unless otherwise specified.
- △ : internal component.
- ▭ : panel designation.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

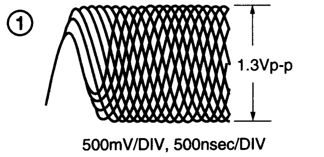
- B+ : B+ Line.
- B− : B– Line.
- ▭ : adjustment for repair.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  - ⇨ : FM
  - ➡ : AM
  - ⇨» : VIDEO/MD
  - ▷ : PB (DECK A)
  - ▷ : PB (DECK B)
  - ▷» : REC (DECK B)
  - ⇨ : CD
  - ⇨» : digital out
- Abbreviation

G	: German model.
E2	: Without SW tuner E model.
E3	: With SW tuner E model.
EA3	: Saudi Arabia model.
EA4	: Israeli model.
EE	: East European model.
AUS	: Australian model.
SP	: Singapore model.
MY	: Malaysia model.
HK	: Hong Kong model.
TW	: Taiwan model.
AR	: Argentine model.
IA	: Indonesian model.
TH	: Thai model.
MX	: Mexican model.
SAF	: South African model.

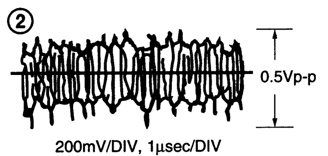
For printed wiring boards.
Note:
- ○—— : parts extracted from the component side.
- ■ : parts mounted on the conductor side.
- ○ : Through hole.
- ▨ : Pattern from the side which enables seeing.

(The other layers' patterns are not indicated.)

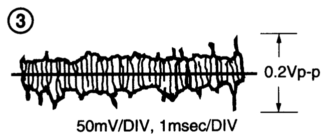
WAVEFORMS
– CD SECTION –



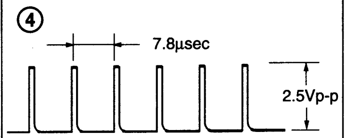
IC101 ㉝ RFO



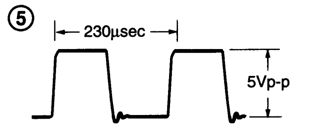
IC101 ② FEI



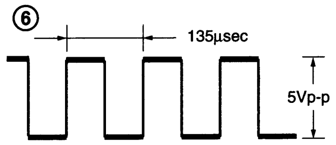
IC101 ㊼ TEI



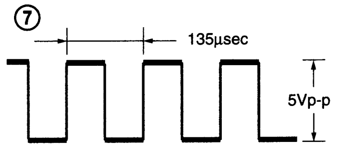
IC103 ㉗ MDP



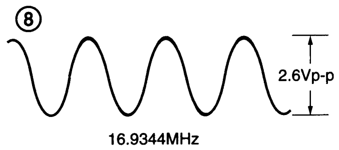
IC103 (60) XPCK



IC103 (62) RFCK

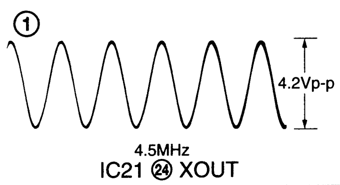


IC103 (74) WFCK

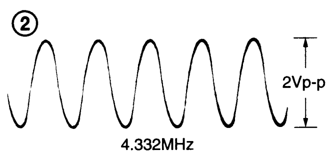


IC103 (89) XTAI

– TUNER SECTION –
(AEP, UK, German model)

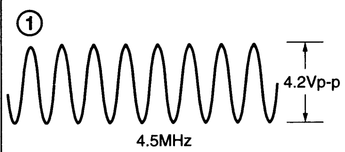


IC21 ㉔ XOUT



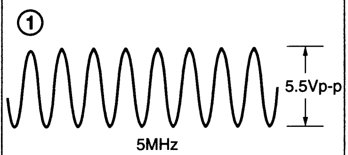
IC1752 ⑭ OEC O

– TUNER SECTION –
(East European, CIS model)

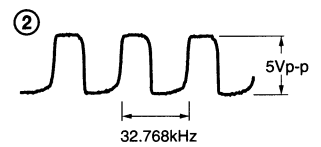


IC21 ㉔ XOUT

– MAIN SECTION –

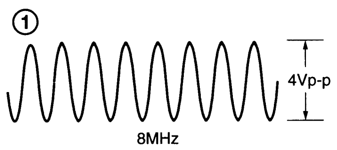


IC501 ⑩ X2

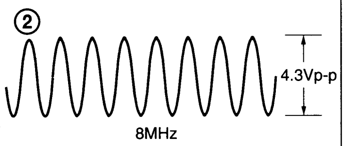


IC501 ⑬ XT2

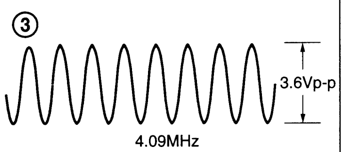
– DISPLAY SECTION –



IC601 ⑧ X-OUT



IC801 ② X-OUT



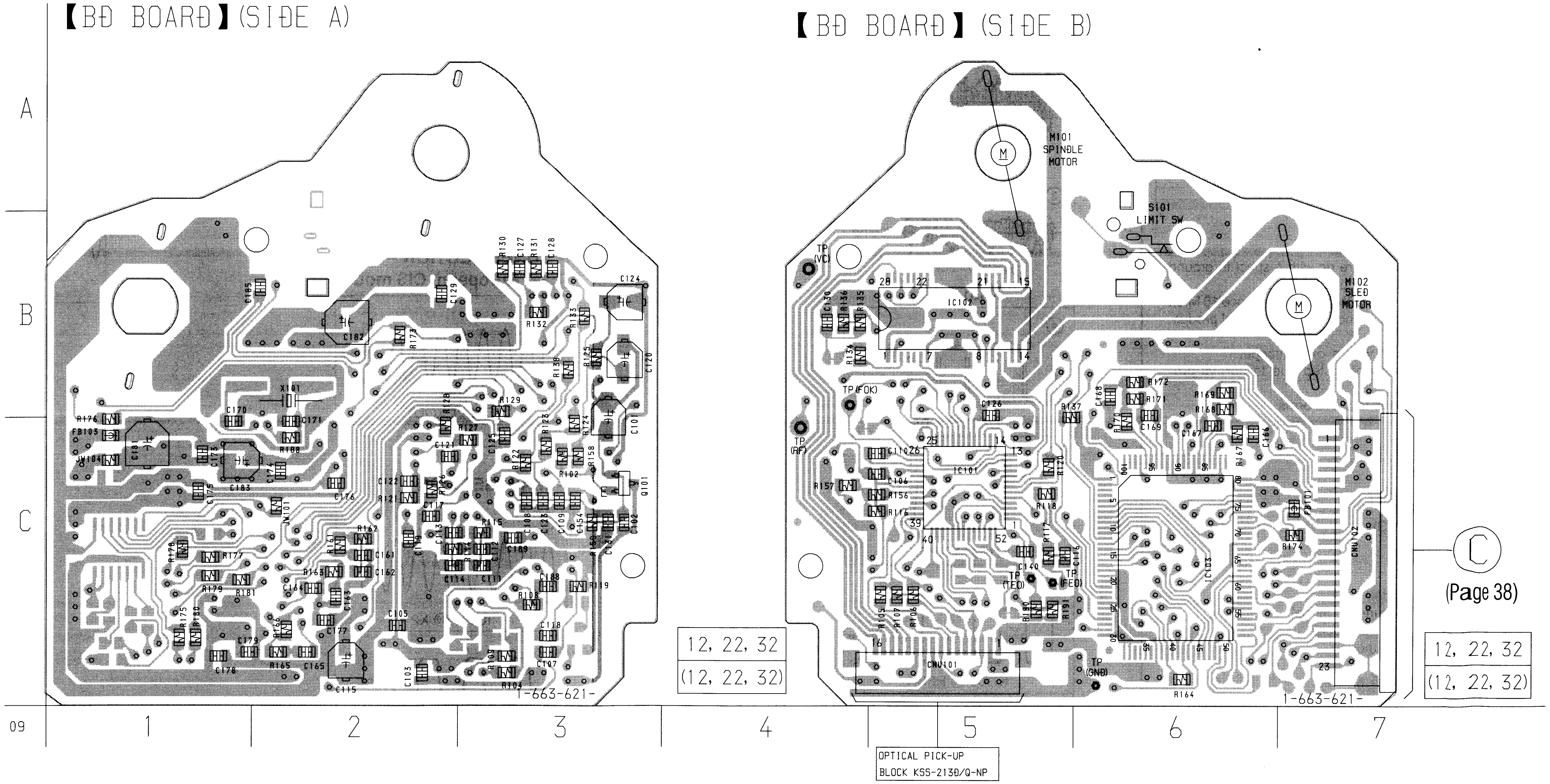
IC851 ② TX

7-3. PRINTED WIRING BOARD — CD SECTION —

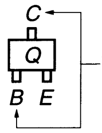
• See page 20 for Circuit Boards Location.

• Semiconductor Location

Ref. No.	Location
IC101	C-5
IC102	B-5
IC103	C-6
Q101	C-3


【BD BOARD】(SIDE A)
【BD BOARD】(SIDE B)
A
B
C
09
1
2
3
4
5
6
7
M101 SPINDLE MOTOR
S101 LIMIT SW
M102 SLED MOTOR
IC101
IC102
IC103
Q101
X101
CN101
CN102
TP (VC)
TP (FOK)
TP (RF)
TP (TEO)
TP (FEO)
TP (GND)
12, 22, 32
(12, 22, 32)
1-663-621-
C
(Page 38)
OPTICAL PICK-UP BLOCK KSS-213D/Q-NP

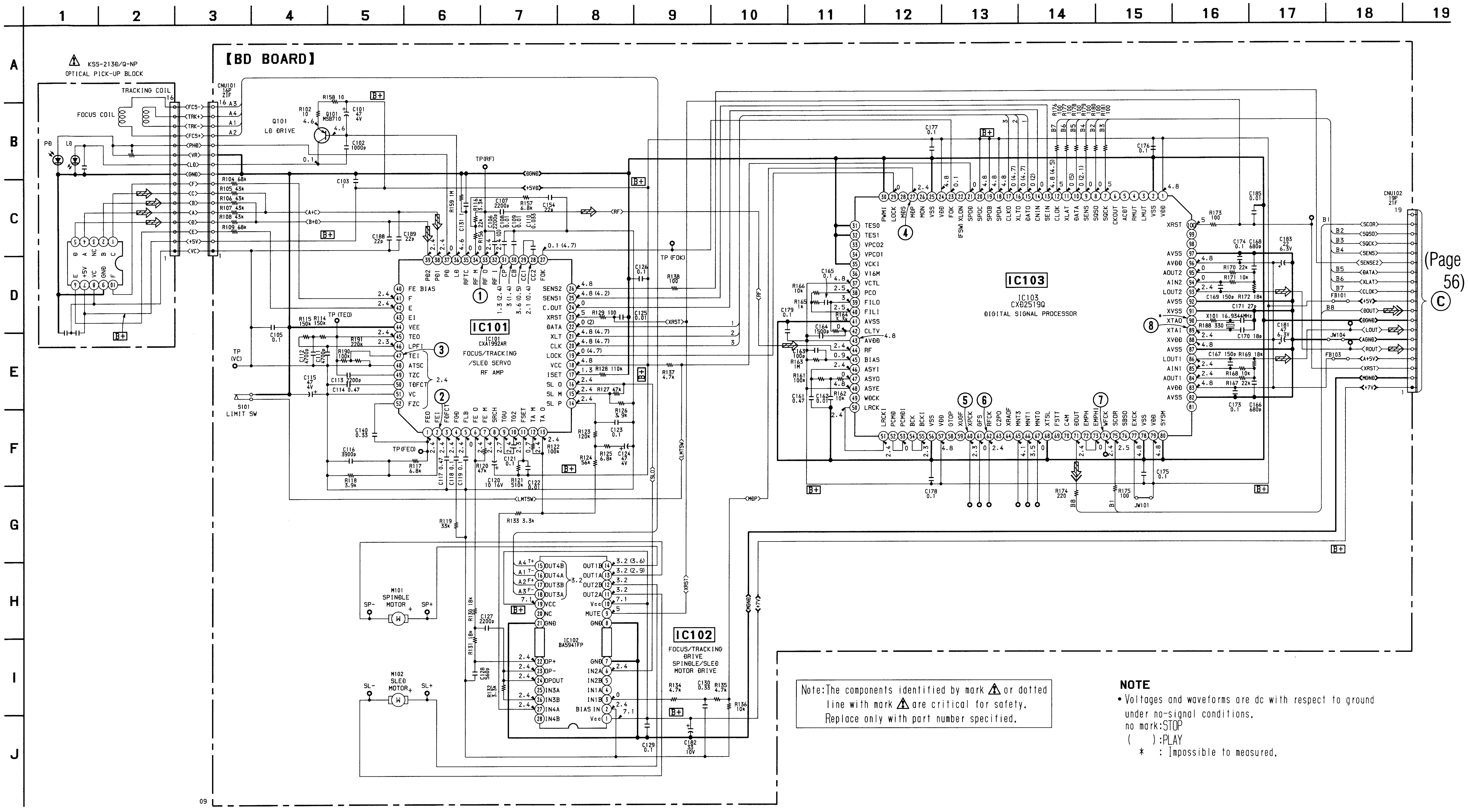
• Indication of transistor



These are omitted

7-4. SCHEMATIC DIAGRAM — CD SECTION —

- See page 35 for Waveforms.
- See page 85 for IC Block Diagrams.
- See page 88 for IC Pin Functions.


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
A
B
C
D
E
F
G
H
I
J
【BD BOARD】
⚠ KSS-213D/Q-NP
OPTICAL PICK-UP BLOCK
TRACKING COIL
FOCUS COIL
PD
LD
CNU101
16P
ZIF
Q101
LD DRIVE
TP(RF)
TP(FOK)
TP(TEO)
TP(FEO)
TP (VC)
S101
LIMIT SW
IC101
IC101
CXA1992AR
FOCUS/TRACKING
/SLED SERVO
RF AMP
IC102
IC102
BA5947FP
FOCUS/TRACKING
DRIVE
SPINDLE/SLED
MOTOR DRIVE
IC103
IC103
CXD2519Q
DIGITAL SIGNAL PROCESSOR
M101
SPINDLE
MOTOR
SP-
SP+
M102
SLED
MOTOR
SL-
SL+
X101 16.9344MHz
JW101
JW104
FB101
FB103
CNU102
19P
ZIF
(Page 56)
Ⓒ
B+
SCOR
SQSO
SQCK
SENS
SENSE2
DATA
XLAT
CLOK
+5V
DOUT
DGND
LOUT
AGND
ROUT
A+5V
XRST
MGND
+7V
09

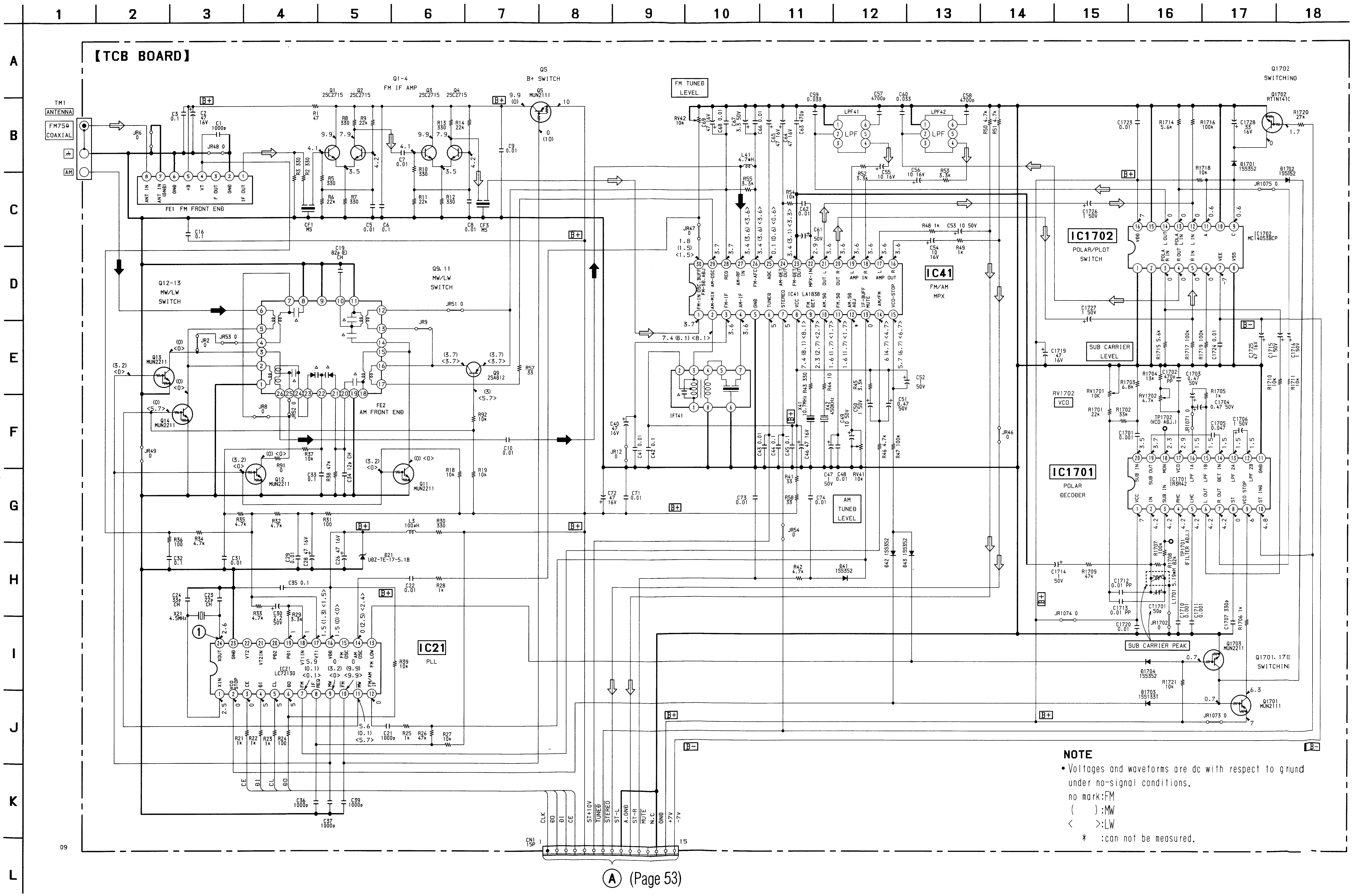
Note:The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

NOTE

- Voltages and waveforms are dc with respect to ground under no-signal conditions.
  no mark:STOP
  ( ):PLAY
  * : Impossible to measured.

7-5. SCHEMATIC DIAGRAM – TUNER SECTION – (AEP, UK, German model)

- See page 36 for Waveforms.
- See page 83 for IC Block Diagrams.

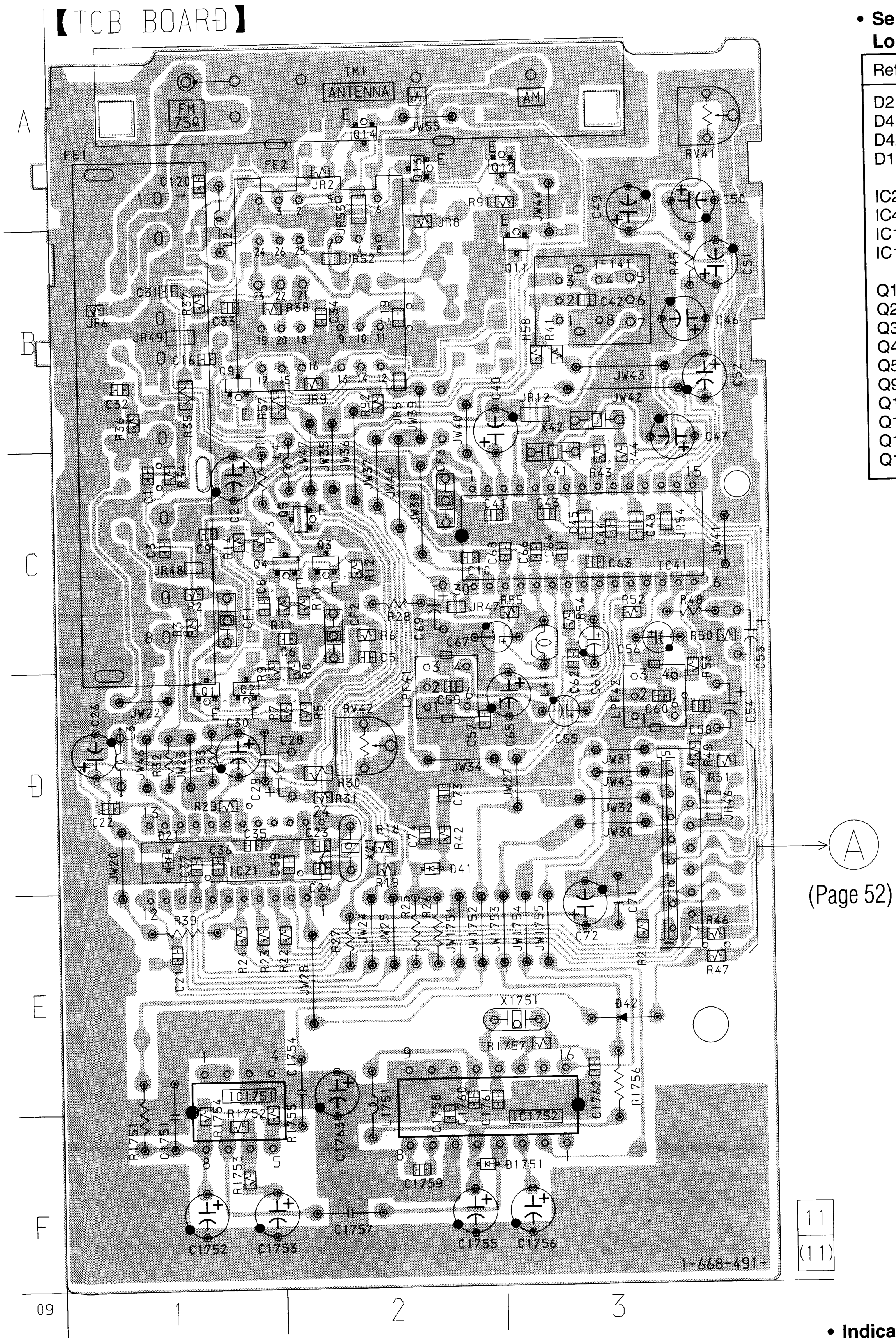

【TCB BOARD】
TM1 ANTENNA FM75Ω COAXIAL AM
FE1 FM FRONT END
ANT IN, ANT IN (GND), GND, +B, VT, F OUT, GND, IF OUT
Q1-4 FM IF AMP
Q1 2SC2715, Q2 2SC2715, Q3 2SC2715, Q4 2SC2715
Q5 B+ SWITCH, Q5 MUN2111
CF1 MS, CF3 MS
Q12-13 MW/LW SWITCH
Q13 MUN2211, Q14 MUN2211
Q9, 11 MW/LW SWITCH
Q9 2SA812
FE2 AM FRONT END
Q12 MUN2211, Q11 MUN2211
D21 UDZ-TE-17-5.1B
L3 100μH
X21 4.5MHz
IC21 LC72130 PLL
XOUT, GND, VT2, VT2IN, PD2, PD1, VT1IN, VDD, FM OSC, AM OSC, XIN, VCO STOP, CE, DI, CL, DO, FM/AM, FM LOW
FM TUNED LEVEL
RV42 10k
LPF41, LPF42
L41 4.7mH
IFT41
X41 10.7MHz, X42 450kHz
IC41 LA1838 FM/AM MPX
AM TUNED LEVEL
D41 1SS352, D42 1SS352, D43 1SS352
IC1702 POLAR/PLOT SWITCH, IC1702 MC14053BCP
SUB CARRIER LEVEL
RV1702 VCO
RV1701 10k
TP1702 (VCO ADJ.)
IC1701 POLAR DECODER, IC1701 TA8142
TP1701 (FILTER ADJ.)
L1701 5.19mH
SUB CARRIER PEAK
Q1702 SWITCHING, Q1702 RT1N141C
D1701 1SS352, D1702 1SS352
Q1703 MUN2211, D1704 1SS352, D1703 1SS133T
Q1701, 1703 SWITCHING, Q1701 MUN2111
JR1073 0, JR1074 0, JR1075 0
CN1 15P
CLK, DO, DI, CE, ST+10V, TUNED, STEREO, ST-L, A.GND, ST-R, MUTE, N.C, GND, +7V, -7V
Ⓐ (Page 53)
B+ B−

NOTE
- Voltages and waveforms are dc with respect to ground under no-signal conditions.

no mark:FM
( ):MW
< >:LW
* :can not be measured.

7-6. PRINTED WIRING BOARD – TUNER SECTION – (AEP, UK, German model)

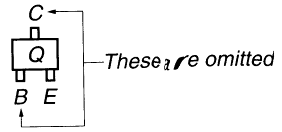
- **See page 20 for Circuit Boards Location.**


【TCB BOARD】
TM1
ANTENNA
FM 75Ω
AM
FE1
FE2
RV41
RV42
IFT41
IC21
IC41
IC1751
IC1752
X41
X42
X1751
LPF41
LPF42
CF1
CF2
CF3
D21
D41
D42
D1751
Q1
Q2
Q3
Q4
Q5
Q9
Q11
Q12
Q13
Q14
A
B
C
D
E
F
1
2
3
09
(Page 52)
11
(11)
1-668-491-

- **Semiconductor Location**

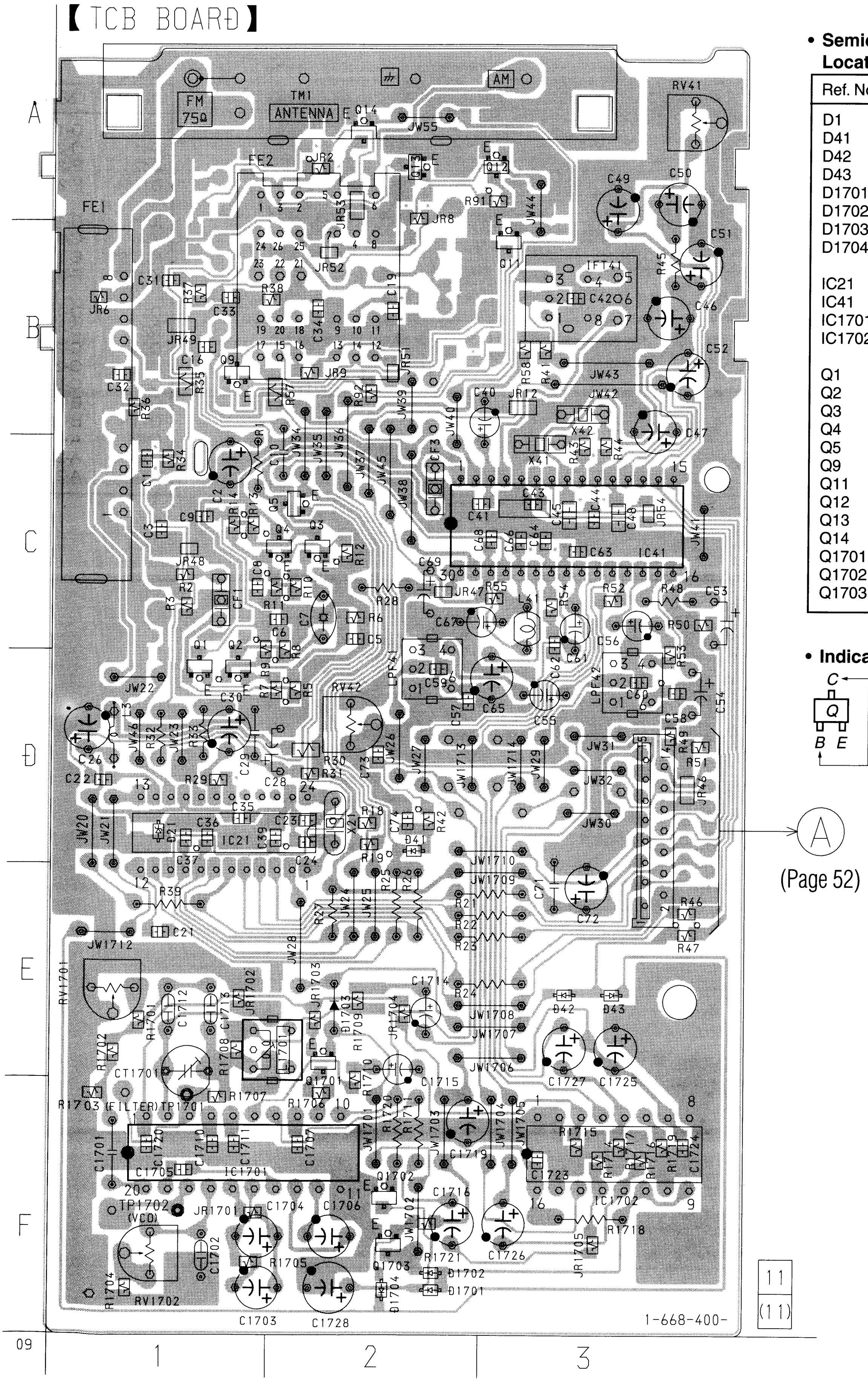
Ref. No.	Location
D21	D-1
D41	D-2
D42	E-3
D1751	F-2
IC21	D-1
IC41	C-3
IC1751	E-1
IC1752	F-3
Q1	D-1
Q2	D-1
Q3	C-2
Q4	C-2
Q5	C-2
Q9	B-1
Q11	B-3
Q12	A-3
Q13	A-2
Q14	A-2

- **Indication of transistor**


C
Q
B E
These are omitted

7-7. PRINTED WIRING BOARD – TUNER SECTION – (East European, CIS model)

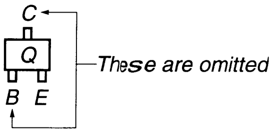
- See page 20 for Circuit Boards Location.


【TCB BOARD】
FM 75Ω
ANTENNA
AM
TM1
FE1
FE2
RV41
IFT41
IC41
IC21
LPF41
LPF42
RV42
CF1
X41
X42
X21
IC1701
IC1702
RV1701
RV1702
CT1701
(FILTER) TP1701
TP1702 (VCO)
L41
A
(Page 52)
1-668-400-
11
(11)
09
A
B
C
D
E
F
1
2
3

• Semiconductor Location

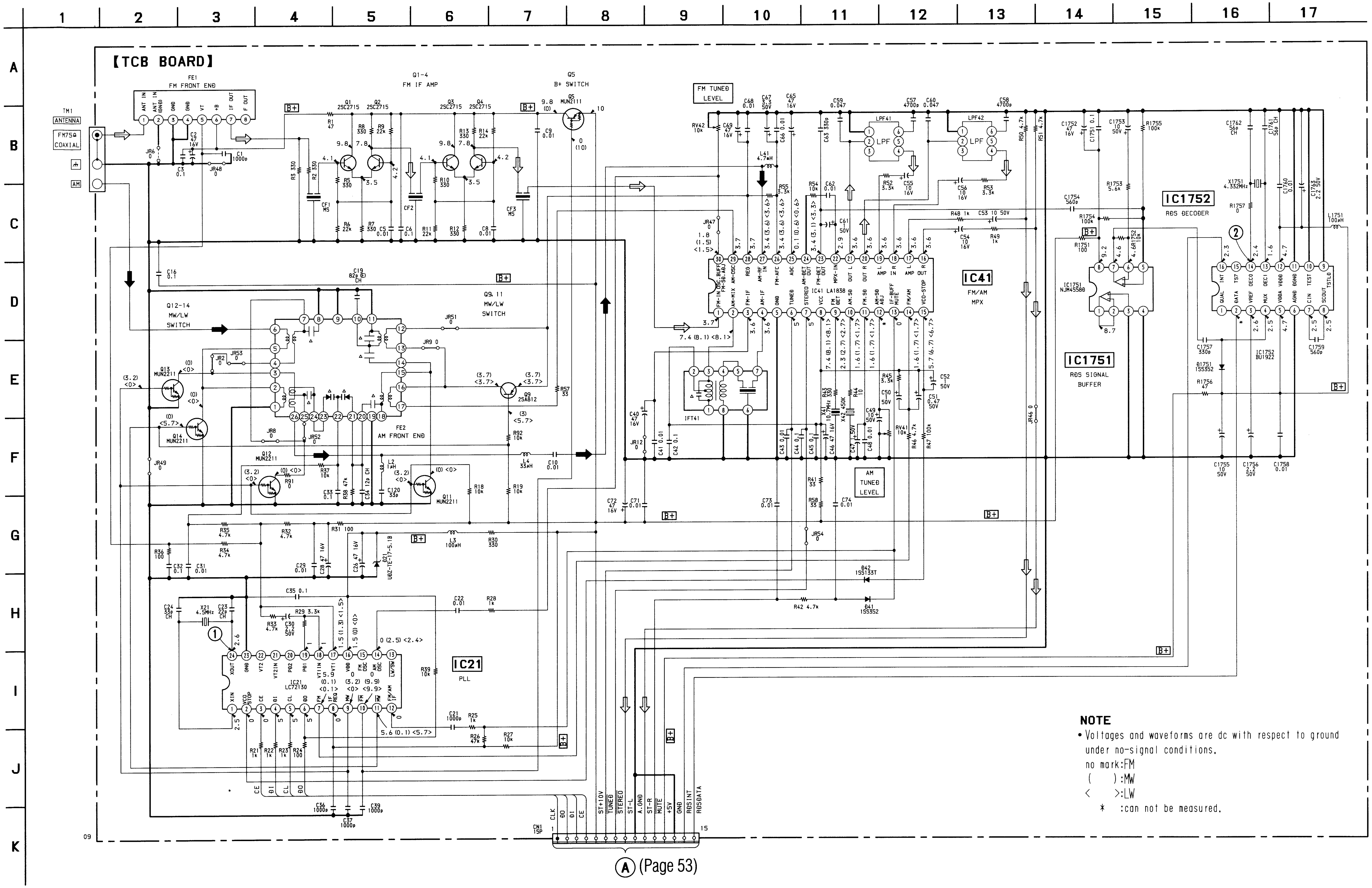
Ref. No.	Location
D1	D-1
D41	D-2
D42	E-3
D43	E-3
D1701	F-2
D1702	F-2
D1703	E-2
D1704	F-2
IC21	D-1
IC41	C-3
IC1701	F-1
IC1702	F-3
Q1	D-1
Q2	D-2
Q3	C-2
Q4	C-2
Q5	C-2
Q9	B-1
Q11	B-3
Q12	A-3
Q13	A-2
Q14	A-2
Q1701	E-2
Q1702	F-2
Q1703	F-2

• Indication of transistor


C
Q
B E
These are omitted

7-8. SCHEMATIC DIAGRAM – TUNER SECTION – (East European, CIS model)

- See page 36 for Waveforms.
- See page 83 for IC Block Diagrams.

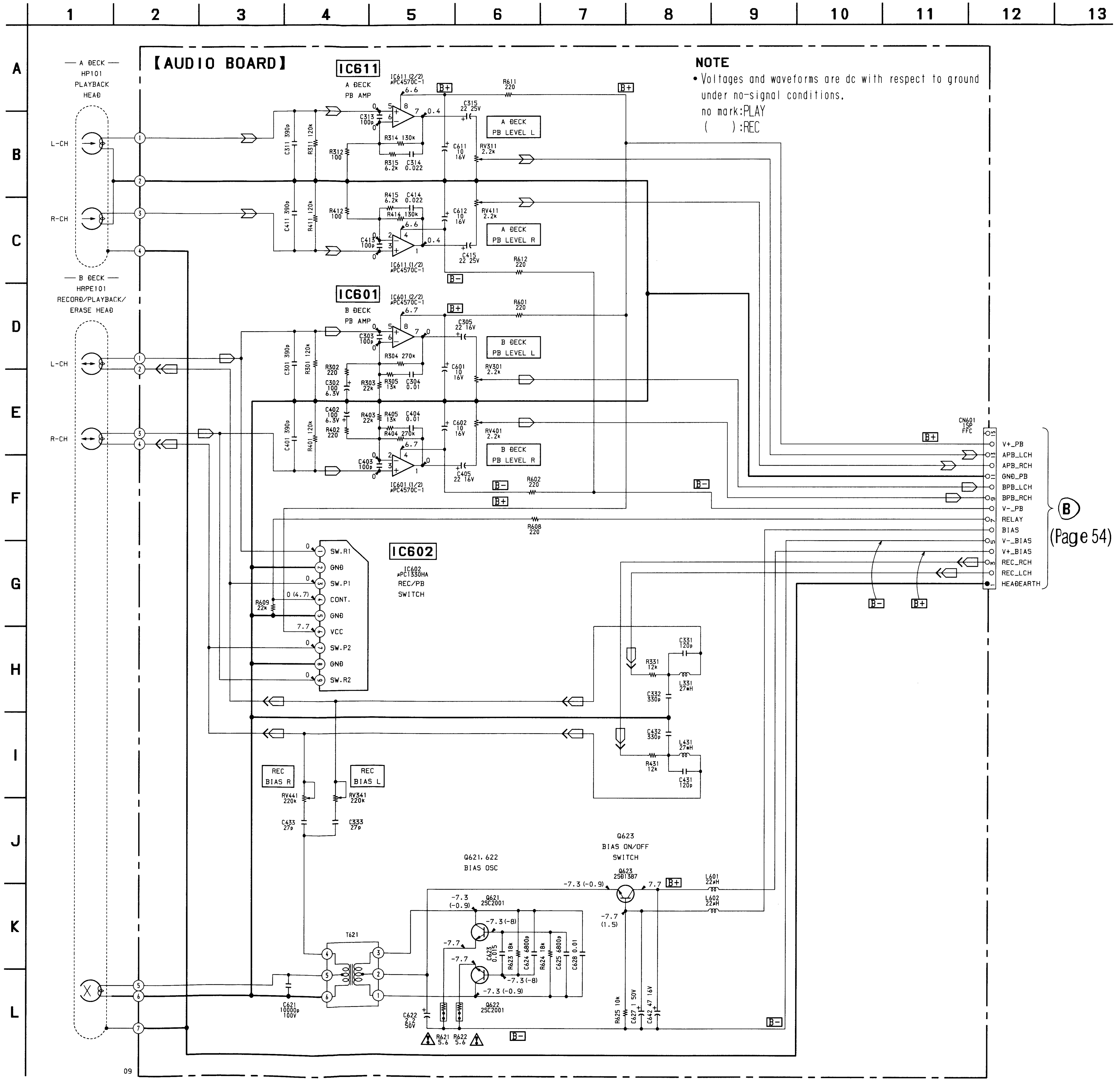


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
A B C D E F G H I J K
【TCB BOARD】
TM1 ANTENNA
FM75Ω COAXIAL
AM
FE1 FM FRONT END
Q1-4 FM IF AMP
Q1 2SC2715
Q2 2SC2715
Q3 2SC2715
Q4 2SC2715
Q5 B+ SWITCH
Q5 MUN2111
B+
CF1 MS
CF2
CF3 MS
Q12-14 MW/LW SWITCH
Q9, 11 MW/LW SWITCH
Q9 2SA812
Q11 MUN2211
Q12 MUN2211
Q13 MUN2211
Q14 MUN2211
FE2 AM FRONT END
FM TUNED LEVEL
AM TUNED LEVEL
LPF41
LPF42
IC41 FM/AM MPX
IC41 LA1838
IFT41
IC21 PLL
IC21 LC72130
X21 4.5MHz
IC1751 RDS SIGNAL BUFFER
IC1751 NJM4558D
IC1752 RDS DECODER
IC1752 BU1922
X1751 4.332MHz
D21 UDZ-TE-17-5.1B
D41 1SS352
D42 1SS133T
D1751 1SS352
L1751 100μH
CN1 15P
CLK
DO
DI
CE
ST+10V
TUNED
STEREO
ST-L
A.GND
ST-R
MUTE
+5V
GND
RDSINT
RDSDATA
Ⓐ (Page 53)

NOTE
- Voltages and waveforms are dc with respect to ground under no-signal conditions.
  no mark:FM
  ( ) :MW
  < >:LW
  * :can not be measured.

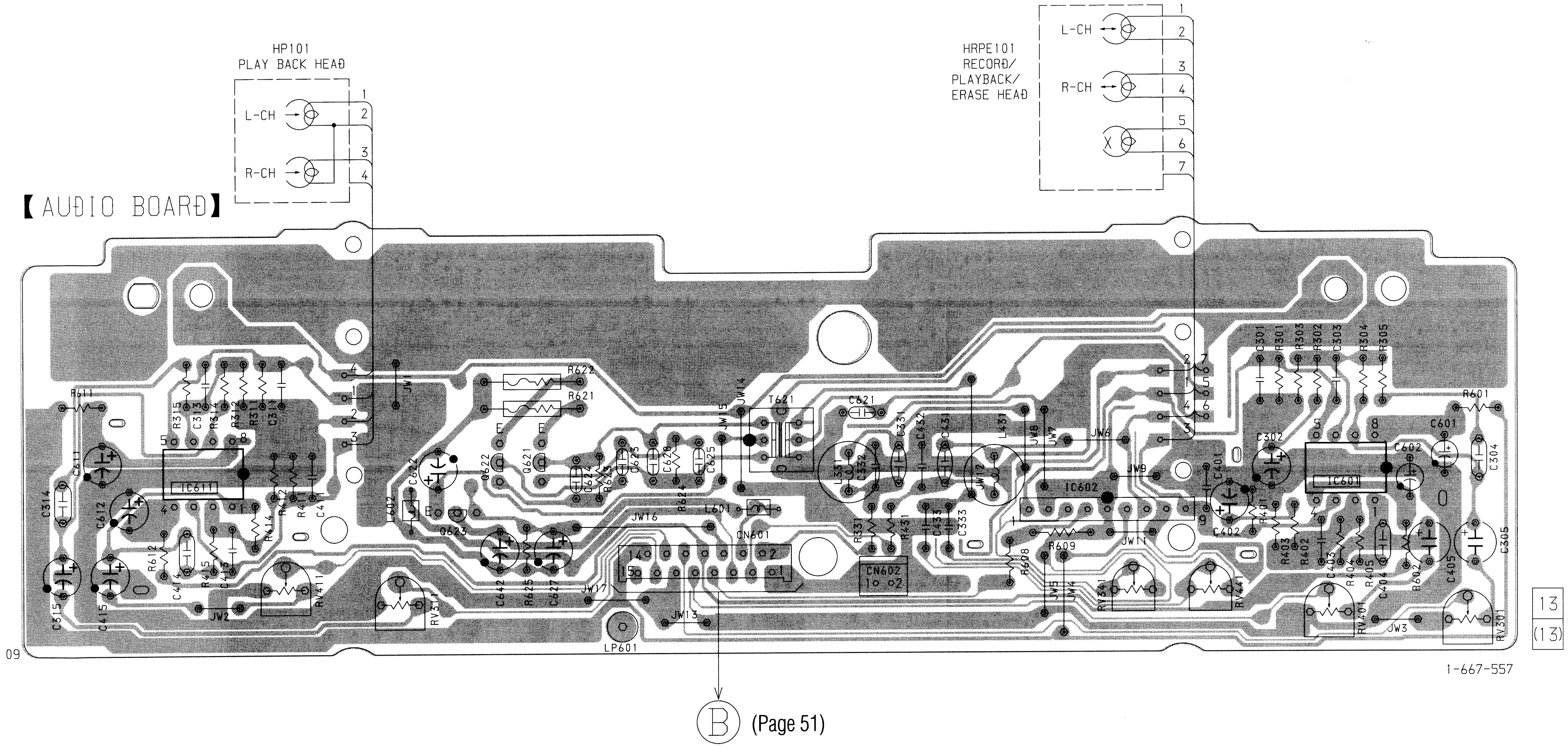
7-9. SCHEMATIC DIAGRAM – DECK SECTION –

- **See page 87 for IC Block Diagrams.**

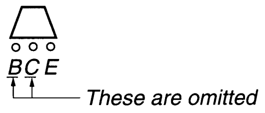

1
2
3
4
5
6
7
8
9
10
11
12
13
A
B
C
D
E
F
G
H
I
J
K
L
— A DECK —
HP101
PLAYBACK
HEAD
L-CH
R-CH
— B DECK —
HRPE101
RECORD/PLAYBACK/
ERASE HEAD
L-CH
R-CH
【AUDIO BOARD】
IC611
A DECK
PB AMP
IC611 (2/2)
μPC4570C-1
IC611 (1/2)
μPC4570C-1
C313 100p
C311 390p
R311 120k
R312 100
R314 130k
R315 6.2k
C314 0.022
C315 22 25V
C611 10 16V
RV311 2.2k
R611 220
A DECK
PB LEVEL L
C411 390p
R411 120k
R412 100
R415 6.2k
C414 0.022
R414 130k
C413 100p
C612 10 16V
RV411 2.2k
C415 22 25V
R612 220
A DECK
PB LEVEL R
IC601
B DECK
PB AMP
IC601 (2/2)
μPC4570C-1
IC601 (1/2)
μPC4570C-1
C303 100p
C301 390p
R301 120k
R302 220
C302 100 6.3V
R303 22k
R304 270k
R305 13k
C304 0.01
C305 22 16V
C601 10 16V
RV301 2.2k
R601 220
B DECK
PB LEVEL L
C401 390p
R401 120k
C402 100 6.3V
R402 220
R403 22k
R405 13k
C404 0.01
R404 270k
C403 100p
C602 10 16V
RV401 2.2k
C405 22 16V
R602 220
B DECK
PB LEVEL R
R608 220
B+
B−
IC602
IC602
μPC1330HA
REC/PB
SWITCH
SW.R1
GND
SW.P1
CONT.
GND
VCC
SW.P2
GND
SW.R2
0 (4.7)
7.7
R609 22k
R331 12k
C331 120p
L331 27mH
C332 330p
C432 330p
L431 27mH
R431 12k
C431 120p
REC
BIAS R
REC
BIAS L
RV441 220k
RV341 220k
C433 27p
C333 27p
Q623
BIAS ON/OFF
SWITCH
Q621, 622
BIAS OSC
Q623
2SB1387
-7.3 (-0.9)
7.7
L601 22μH
L602 22μH
-7.7 (1.5)
Q621
2SC2001
-7.3 (-0.9)
-7.3 (-8)
-7.7
-7.7
C623 0.015
R623 18k
C624 6800p
R624 18k
C625 6800p
C628 0.01
-7.3 (-8)
-7.3 (-0.9)
Q622
2SC2001
T621
C621 10000p 100V
C622 2.2 50V
R621 5.6
R622 5.6
R625 10k
C627 1 50V
C642 47 16V
NOTE
• Voltages and waveforms are dc with respect to ground under no-signal conditions.
no mark:PLAY
(   ):REC
CN601
15P
FFC
V+_PB
APB_LCH
APB_RCH
GND_PB
BPB_LCH
BPB_RCH
V-_PB
RELAY
BIAS
V-_BIAS
V+_BIAS
REC_RCH
REC_LCH
HEADEARTH
B
(Page 54)
09

7-10. PRINTED WIRING BOARD – DECK SECTION –

- See page 20 for Circuit Boards Location.


HP101
PLAY BACK HEAD
L-CH
R-CH
HRPE101
RECORD/
PLAYBACK/
ERASE HEAD
X
【AUDIO BOARD】
IC611
IC602
IC601
T621
CN601
CN602
LP601
RV311
RV411
RV341
RV441
RV401
RV301
09
1-667-557
13
(13)
B
(Page 51)

- **Indication of transistor**

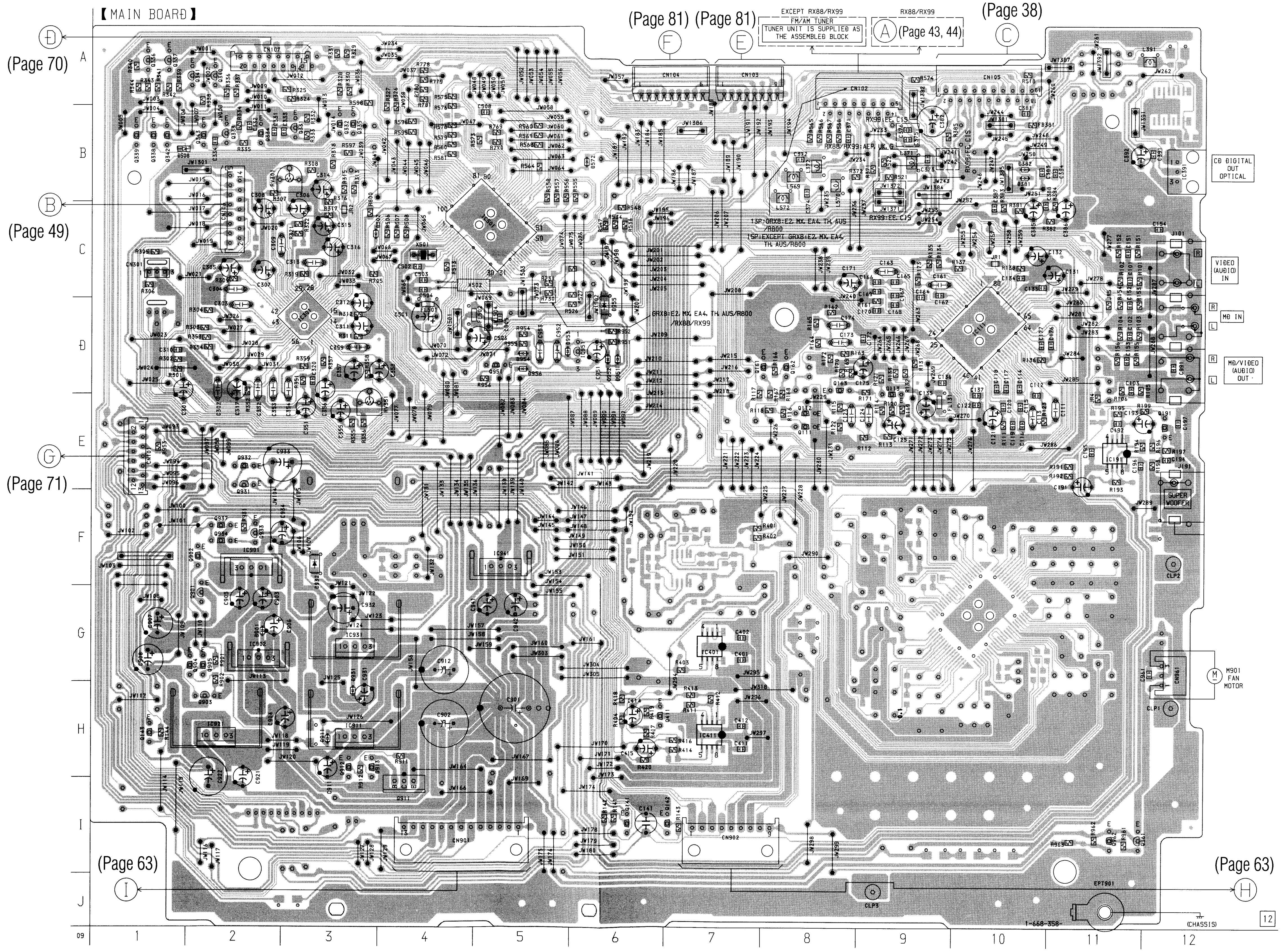

B C E
These are omitted

7-11. PRINTED WIRING BOARD – MAIN SECTION –

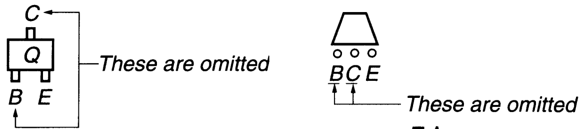
• See page 20 for Circuit Boards Location.

• Semiconductor Location

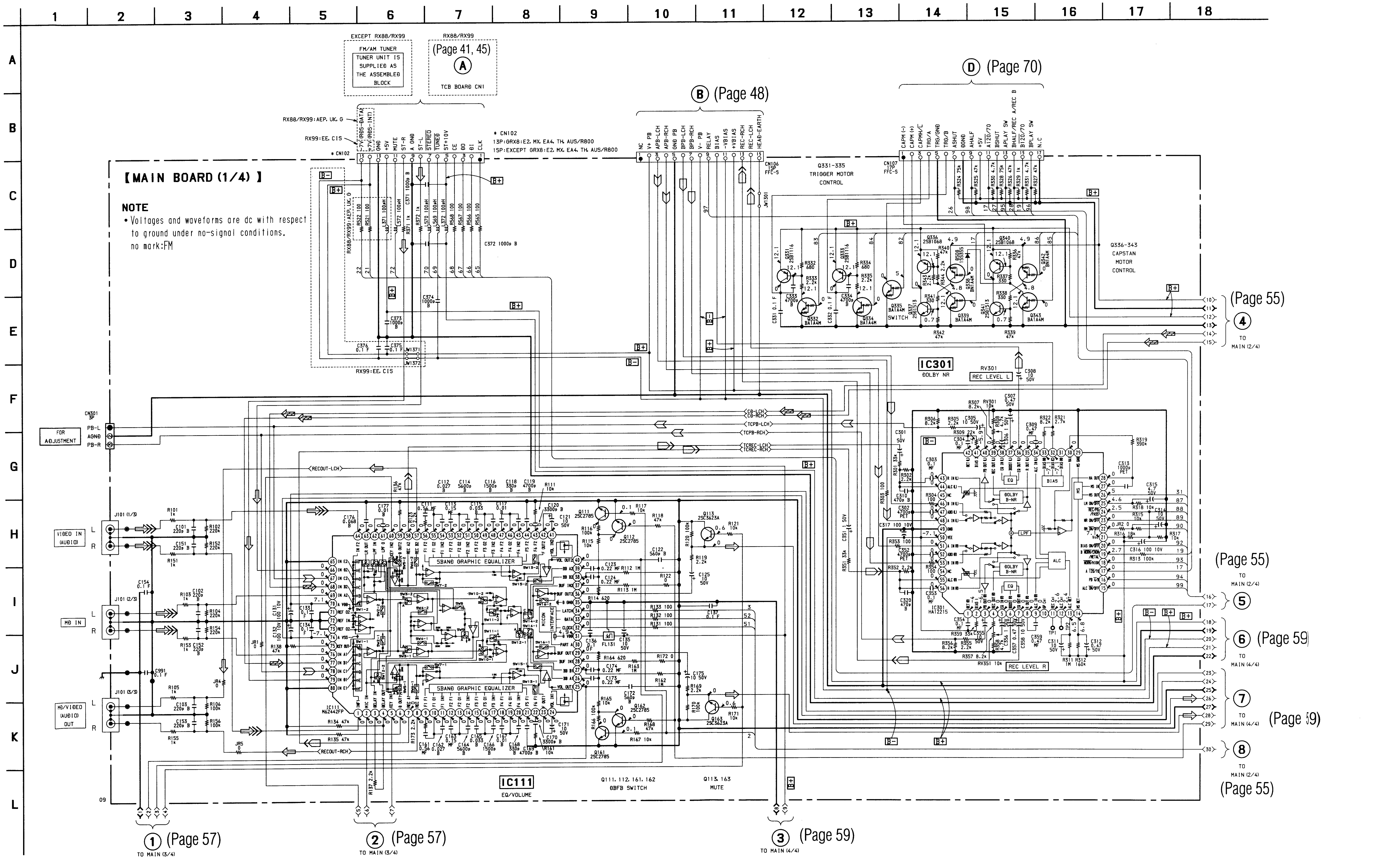
Ref. No.	Location
D381	B-10
D382	B-10
D502	C-3
D508	B-1
D572	B-6
D901	G-2
D911	H-3
D931	H-3
D932	F-3
D951	D-6
D952	D-6
D953	D-5
D954	D-5
D955	D-6
D956	D-5
IC111	D-10
IC191	E-11
IC301	D-3
IC391	B-12
IC401	G-7
IC411	H-7
IC501	C-5
IC901	F-2
IC902	G-2
IC911	H-3
IC921	H-2
IC931	G-3
IC941	F-5
IC951	D-6
Q111	E-8
Q112	E-8
Q113	E-9
Q141	I-6
Q142	I-7
Q143	H-1
Q161	D-8
Q162	D-8
Q163	D-8
Q191	E-12
Q331	B-3
Q332	B-3
Q333	B-2
Q334	B-2
Q335	B-3
Q336	A-1
Q337	A-1
Q338	B-1
Q339	B-1
Q340	A-2
Q341	A-2
Q342	B-1
Q343	B-2
Q411	H-6
Q901	G-2
Q902	F-2
Q903	H-2
Q904	G-2
Q905	G-2
Q911	I-4
Q912	H-3
Q913	H-3
Q931	E-2
Q932	E-2
Q933	F-2
Q934	F-2
Q937	F-2
Q951	D-5
Q961	I-11
Q962	I-11


【MAIN BOARD】
(Page 70)
(Page 49)
(Page 71)
(Page 63)
(Page 63)
(Page 81)
(Page 81)
(Page 38)
(Page 43, 44)
EXCEPT RX88/RX99
FM/AM TUNER
TUNER UNIT IS SUPPLIED AS THE ASSEMBLED BLOCK
RX88/RX99
CN104
CN103
CN102
CN105
CN107
CN901
CN902
CN961
IC901
IC931
IC911
IC401
IC411
IC191
CD DIGITAL OUT OPTICAL
VIDEO (AUDIO) IN
MD IN
MD/VIDEO (AUDIO) OUT
SUPER WOOFER
M901 FAN MOTOR
CLP1
CLP2
CLP3
EPT901
(CHASSIS)
1-668-358-
12
09
A
B
C
D
E
F
G
H
I
J
1
2
3
4
5
6
7
8
9
10
11
12

• Indication of transistor


C
Q
B E
These are omitted
BCE
These are omitted

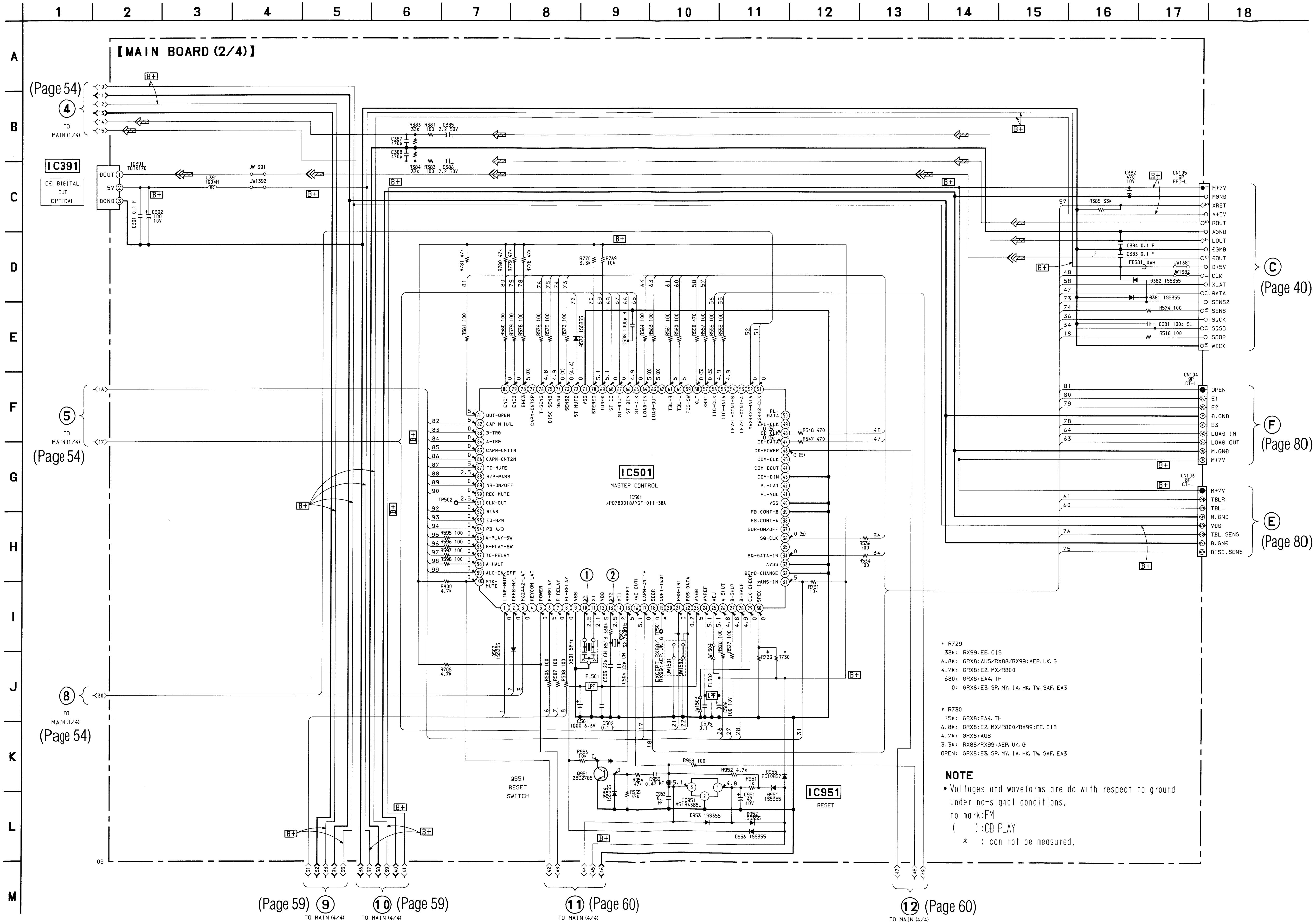
7-12. SCHEMATIC DIAGRAM – MAIN (1/4) SECTION –



[MAIN BOARD (1/4)]
NOTE
• Voltages and waveforms are dc with respect to ground under no-signal conditions.
no mark:FM
EXCEPT RX88/RX99
FM/AM TUNER
TUNER UNIT IS SUPPLIED AS THE ASSEMBLED BLOCK
RX88/RX99
(Page 41, 45)
Ⓐ
TCB BOARD CN1
Ⓑ (Page 48)
Ⓓ (Page 70)
* CN102
13P:GRX8:E2, MX, EA4, TH, AUS/R800
15P:EXCEPT GRX8:E2, MX, EA4, TH, AUS/R800
RX88/RX99:AEP, UK, G
RX99:EE, CIS
CN106
CN107
Q331-335
TRIGGER MOTOR CONTROL
Q336-343
CAPSTAN MOTOR CONTROL
(Page 55)
④
TO MAIN (2/4)
IC301
DOLBY NR
RV301
REC LEVEL L
RV351
REC LEVEL R
IC301
HA12215
CN301
FOR ADJUSTMENT
PB-L
AGND
PB-R
VIDEO IN (AUDIO)
MD IN
MD/VIDEO (AUDIO) OUT
J101 (1/3)
J101 (2/3)
J101 (3/3)
IC111
M62442FP
5BAND GRAPHIC EQUALIZER
IC111
EQ/VOLUME
Q111, 112, 161, 162
DBFB SWITCH
Q113, 163
MUTE
(Page 55)
⑤
TO MAIN (2/4)
⑥ (Page 59)
TO MAIN (4/4)
⑦
TO MAIN (4/4)
(Page 59)
⑧
TO MAIN (2/4)
(Page 55)
① (Page 57)
TO MAIN (3/4)
② (Page 57)
TO MAIN (3/4)
③ (Page 59)
TO MAIN (4/4)

7-13. SCHEMATIC DIAGRAM – MAIN (2/4) SECTION –

- See page 36 for Waveforms.
- See page 51 for Printed Wiring Board.
- See page 93 for IC Pin Functions.


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
A B C D E F G H I J K L M
[MAIN BOARD (2/4)]
(Page 54) ④ TO MAIN (1/4)
⑤ TO MAIN (1/4) (Page 54)
⑧ TO MAIN (1/4) (Page 54)
IC391
CD DIGITAL OUT OPTICAL
IC391 TOTX178
DOUT ① 5V ② DGND ③
C391 0.1 F
C392 100 10V
L391 100μH
JW1391 JW1392
R383 33k R381 100 C385 2.2 50V
C387 470p C388 470p
R384 33k R382 100 C386 2.2 50V
IC501
MASTER CONTROL
IC501 μPD780018AYGF-011-3BA
OUT-OPEN CAP-M-H/L B-TRG A-TRG CAPM-CNT1M CAPM-CNT2M TC-MUTE R/P-PASS NR-ON/OFF REC-MUTE CLK-OUT BIAS EQ-H/N PB-A/B A-PLAY-SW B-PLAY-SW TC-RELAY A-HALF ALC-ON/OFF STK-MUTE
PL-DATA PL-CLK CD-CLK CD-DATA CD-POWER COM-CLK COM-DOUT COM-DIN PL-LAT PL-VOL VSS FB.CONT-B FB.CONT-A SUR-ON/OFF SQ-CLK SQ-DATA-IN AVSS DEMO-CHANGE XAMS-IN
ENC1 ENC2 ENC3 CAPM-CNT2P T-SENS DISC-SENS SENS SENS2 ST-MUTE VSS STEREO ST-CE ST-DOUT ST-DIN ST-CLK LOAD-IN LOAD-OUT TBL-R TBL-L FCS-SW XLT IIC-CLK IIC-DATA LEVEL-CONT-A LEVEL-CONT-B M62442-DATA M62442-CLK
LINE-MUTE DBFB-H/L M62442-LAT KEYCON-RELAY POWER F-RELAY R-RELAY PL-RELAY VSS X2 X1 VDD XT2 XT1 RESET (AC-CUT) CAPM-CNT1P SCOR SOFT-TEST RDS-INT RDS-DATA AVDD AVREF A-ADJ A-SHUT B-HALF CLK-CHECK SPEC-CLK
TP502 R595 100 R596 100 R597 100 R598 100 R800 4.7k R705 4.7k
R781 47k R780 47k R779 47k R778 47k R770 3.3k R769 10k
R581 100 R580 100 R579 100 R578 100 R576 100 R575 100 R573 100 D572 1SS355 C508 1000p B R564 100 R563 100 R561 100 R560 100 R558 470 R557 100 R556 100 R555 100
R548 470 R547 470 R536 100 R534 100 R731 10k
X501 5MHz R513 330k C503 22p CH C504 22p CH X502 32.768kHz FL501 LPF FL502 LPF C501 1000 6.3V C502 0.1 F C505 0.1 F C506 100 10V
R506 100 R507 100 R508 100 D502 1SS355 JW1501 JW1502 JW1503 JW1504 R526 100 R527 100 R729 R730 TP501
EXCEPT RX88/RX99:AEP, UK, G
IC951 RESET
IC951 M51943BSL
Q951 2SC2785 Q951 RESET SWITCH
R956 10k R953 100 R952 4.7k R954 47k R955 47k C953 0.47 MF C952 0.1 C951 47 10V R951 1k D955 EC10QS2 D951 1SS355 D952 1SS355 D953 1SS355 D956 1SS355
C382 470 10V R385 33k C384 0.1 F C383 0.1 F FB381 0μH JW1381 JW1382 D382 1SS355 D381 1SS355 R574 100 C381 100p SL R518 100
CN105 19P FFC-L
M+7V MGND XRST A+5V ROUT AGND LOUT DGND DOUT D+5V CLK XLAT DATA SENS2 SENS SQCK SQSO SCOR WDCK
Ⓒ (Page 40)
CN104 9P CT-L
OPEN E1 E2 D.GND E3 LOAD IN LOAD OUT M.GND M+7V
Ⓕ (Page 80)
CN103 8P CT-L
M+7V TBLR TBLL M.GND VDD TBL SENS D.GND DISC.SENS
Ⓔ (Page 80)
B+
(Page 59) ⑨ TO MAIN (4/4)
⑩ (Page 59) TO MAIN (4/4)
⑪ (Page 60) TO MAIN (4/4)
⑫ (Page 60) TO MAIN (4/4)

* R729
33k: RX99:EE, CIS
6.8k: GRX8:AUS/RX88/RX99:AEP, UK, G
4.7k: GRX8:E2, MX/R800
680: GRX8:EA4, TH
0: GRX8:E3, SP, MY, IA, HK, TW, SAF, EA3

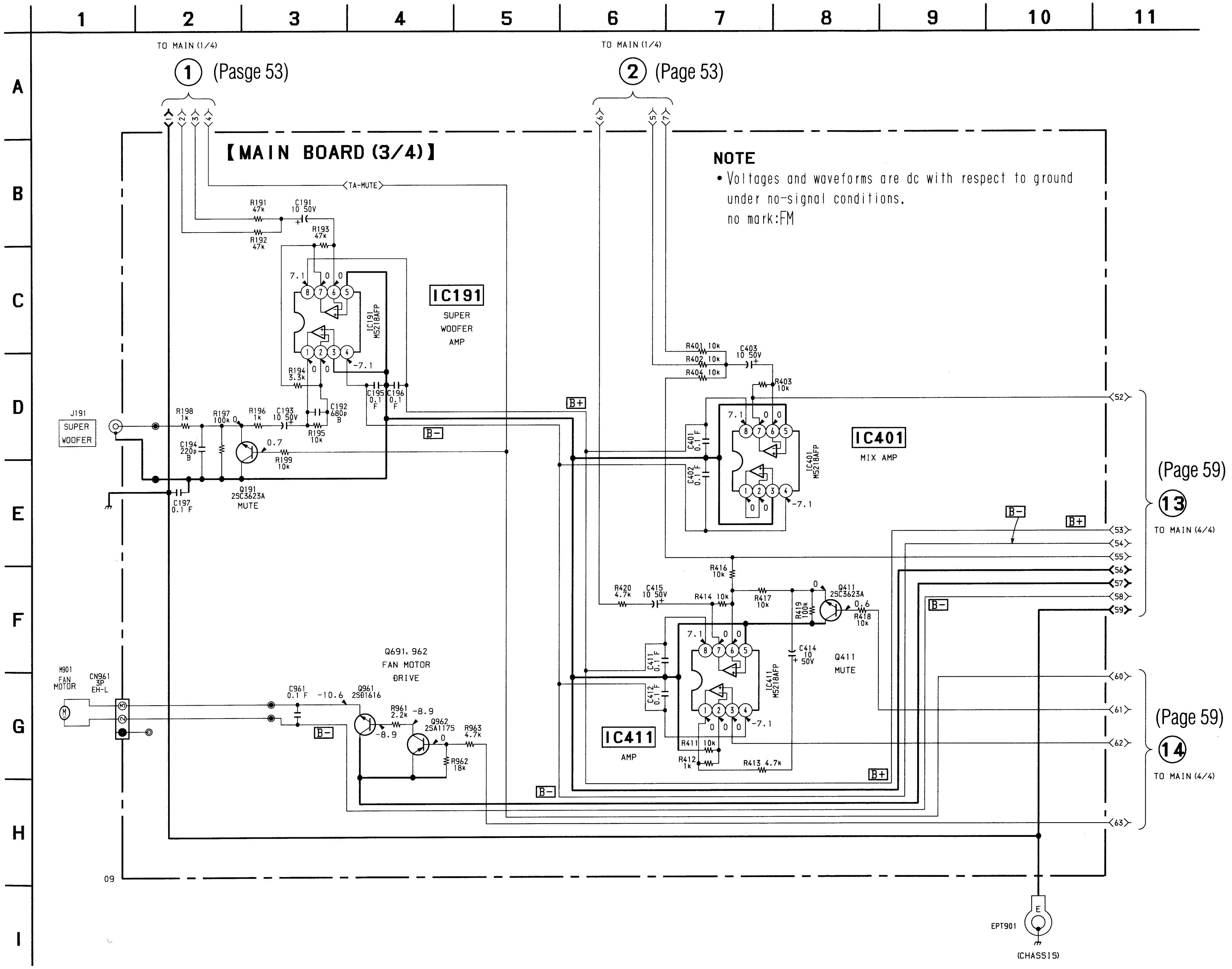
* R730
15k: GRX8:EA4, TH
6.8k: GRX8:E2, MX/R800/RX99:EE, CIS
4.7k: GRX8:AUS
3.3k: RX88/RX99:AEP, UK, G
OPEN: GRX8:E3, SP, MY, IA, HK, TW, SAF, EA3

NOTE

- Voltages and waveforms are dc with respect to ground under no-signal conditions.
  no mark:FM
  (   ):CD PLAY
  * : can not be measured.

7-14. SCHEMATIC DIAGRAM – MAIN (3/4) SECTION –

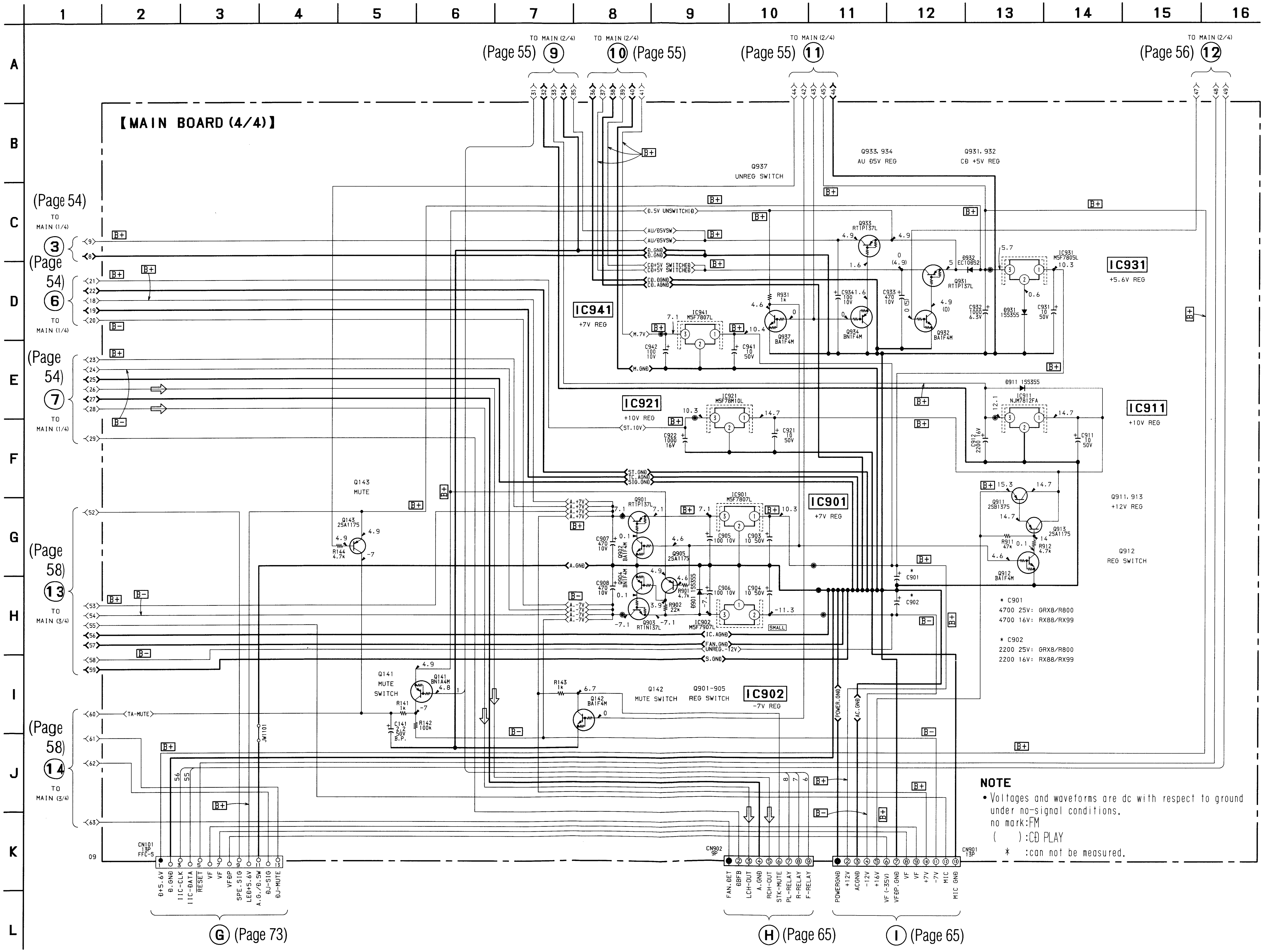
• See page 51 for Printed Wiring Board.


1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
F
G
H
I
TO MAIN (1/4)
① (Pasge 53)
TO MAIN (1/4)
② (Page 53)
【MAIN BOARD (3/4)】
TA-MUTE
R191 47k
C191 10 50V
R192 47k
R193 47k
7.1
0
0
-7.1
IC191 M5218AFP
IC191
SUPER WOOFER AMP
R194 3.3k
C195 0.1 F
C196 0.1 F
C192 680p B
B+
B-
J191
SUPER WOOFER
R198 1k
R197 100k
R196 1k
C193 10 50V
R195 10k
C194 220p B
0.7
R199 10k
Q191 2SC3623A MUTE
C197 0.1 F
R401 10k
R402 10k
R404 10k
C403 10 50V
R403 10k
C401 0.1 F
C402 0.1 F
IC401 M5218AFP
IC401
MIX AMP
52
53
54
55
56
57
58
59
(Page 59)
⑬
TO MAIN (4/4)
R416 10k
R420 4.7k
C415 10 50V
R414 10k
R417 10k
R419 100k
Q411 2SC3623A
0.6
R418 10k
C411 0.1 F
C412 0.1 F
IC411 M5218AFP
C414 10 50V
Q411 MUTE
IC411
AMP
R411 10k
R412 1k
R413 4.7k
60
61
62
63
(Page 59)
⑭
TO MAIN (4/4)
Q691, 962
FAN MOTOR DRIVE
M901
FAN MOTOR
CN961 3P EH-L
M
C961 0.1 F
-10.6
Q961 2SD1616
R961 2.2k
-8.9
Q962 2SA1175
R963 4.7k
R962 18k
09
EPT901
E
(CHASSIS)

NOTE
- Voltages and waveforms are dc with respect to ground under no-signal conditions.
no mark:FM

7-15. SCHEMATIC DIAGRAM – MAIN (4/4) SECTION –

- See page 51 for Printed Wiring Board.

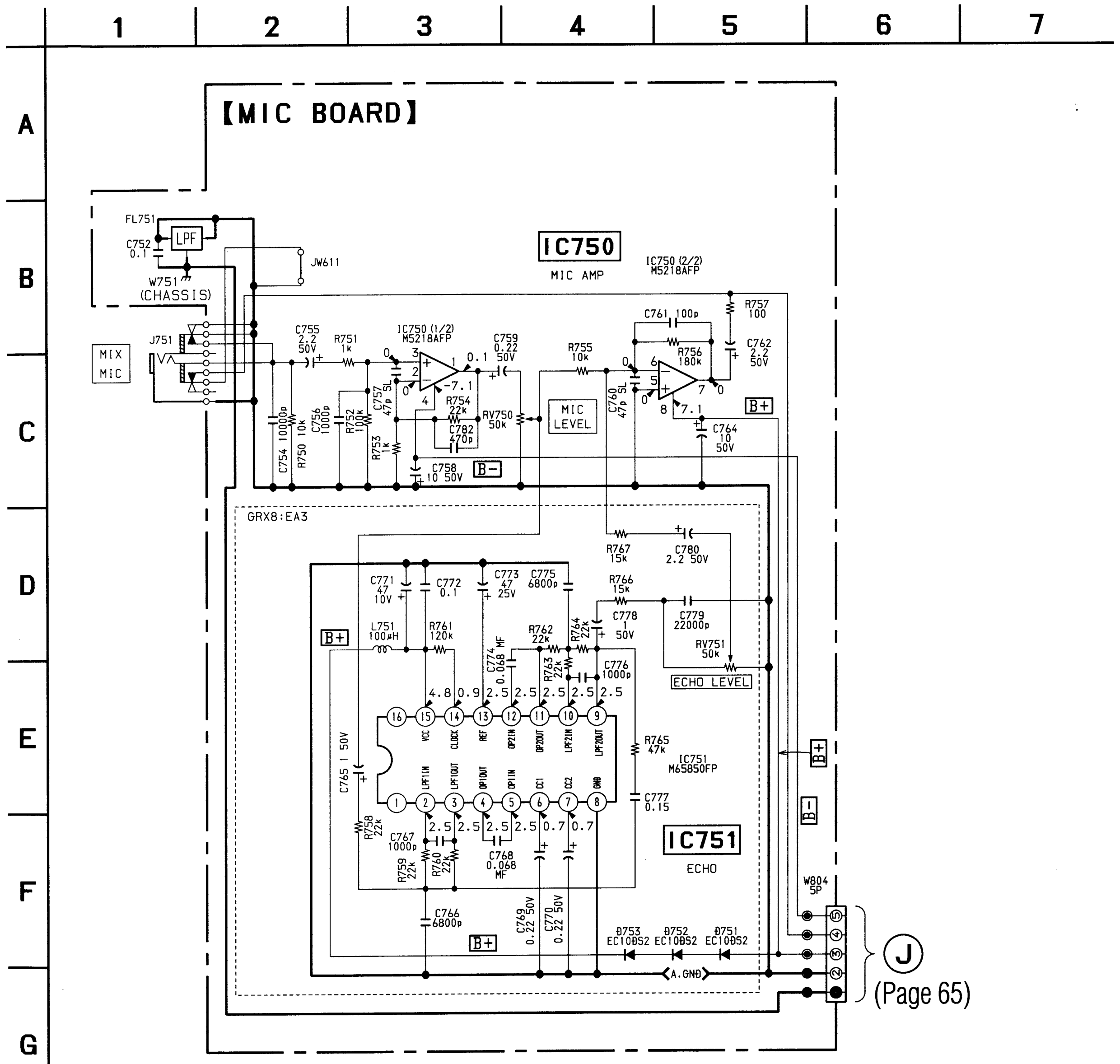

[MAIN BOARD (4/4)]
TO MAIN (2/4) (Page 55) ⑨
TO MAIN (2/4) ⑩ (Page 55)
TO MAIN (2/4) (Page 55) ⑪
TO MAIN (2/4) (Page 56) ⑫
(Page 54) TO MAIN (1/4) ③
(Page 54) ⑥ TO MAIN (1/4)
(Page 54) ⑦ TO MAIN (1/4)
(Page 58) ⑬ TO MAIN (3/4)
(Page 58) ⑭ TO MAIN (3/4)
IC941 +7V REG
IC921 +10V REG
IC901 +7V REG
IC902 -7V REG
IC931 +5.6V REG
IC911 +10V REG
Q937 UNREG SWITCH
Q933, 934 AU Ð5V REG
Q931, 932 CÐ +5V REG
Q911, 913 +12V REG
Q912 REG SWITCH
Q143 MUTE
Q141 MUTE SWITCH
Q142 MUTE SWITCH
Q901-905 REG SWITCH
* C901
4700 25V: GRX8/R800
4700 16V: RX88/RX99
* C902
2200 25V: GRX8/R800
2200 16V: RX88/RX99
CN101 13P FFC-S
Ð+5.6V
Ð.GNÐ
IIC-CLK
IIC-DATA
RESET
VF
VF
VFÐP
SPE.SIG
LEÐ+5.6V
A.G./Ð.SW
ÐJ-SIG
ÐJ-MUTE
CN902 9P
FAN.ÐET
ÐBFB
LCH-OUT
A.GNÐ
RCH-OUT
STK-MUTE
PL-RELAY
R-RELAY
F-RELAY
CN901 13P
POWERGNÐ
+12V
ACGNÐ
-12V
+16V
VF (-35V)
VFÐP.GNÐ
VF
VF
+7V
-7V
MIC
MIC GNÐ
Ⓖ (Page 73)
Ⓗ (Page 65)
Ⓘ (Page 65)

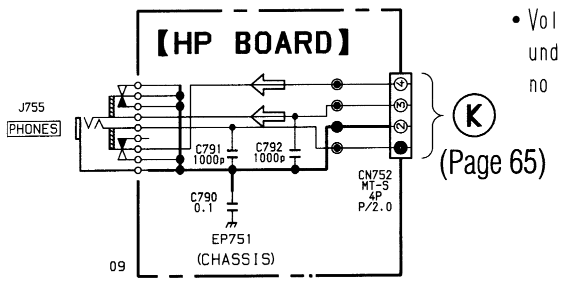
NOTE

- Voltages and waveforms are dc with respect to ground under no-signal conditions.
  no mark:FM
  (   ):CD PLAY
  * :can not be measured.

7-16. SCHEMATIC DIAGRAM – MIC/HP SECTION –

• See page 87 for IC Block Diagrams.


1
2
3
4
5
6
7
A
B
C
D
E
F
G
【MIC BOARD】
FL751
LPF
C752 0.1
W751
(CHASSIS)
JW611
J751
MIX MIC
IC750
MIC AMP
IC750 (1/2) M5218AFP
IC750 (2/2) M5218AFP
C755 2.2 50V
R751 1k
C759 0.22 50V
R755 10k
C761 100p
R756 180k
R757 100
C762 2.2 50V
R754 22k
C782 470p
RV750 50k
MIC LEVEL
C760 47p
C764 10 50V
C754 10000p
R750 10k
C756 1000p
R752 100
C757 47p
R753 1k
C758 10 50V
B+
B-
GRX8:EA3
R767 15k
C780 2.2 50V
R766 15k
C778 50V
C779 22000p
RV751 50k
ECHO LEVEL
C771 47 10V
C772 0.1
C773 47 25V
C775 6800p
L751 100µH
R761 120k
R762 22k
R763 22k
R764 22k
C774 0.068
C776 1000p
R765 47k
IC751 M65850FP
IC751
ECHO
C777 0.15
C765 1 50V
R758 22k
C767 1000p
R759 22k
R760 22k
C768 0.068
C766 6800p
C769 0.22 50V
C770 0.22 50V
D753 EC10BS2
D752 EC10BS2
D751 EC10BS2
A.GND
W804 5P
J
(Page 65)


H
【HP BOARD】
J755
PHONES
C791 1000p
C792 1000p
C790 0.1
EP751
(CHASSIS)
CN752 MT-5 4P P/2.0
K
(Page 65)
09

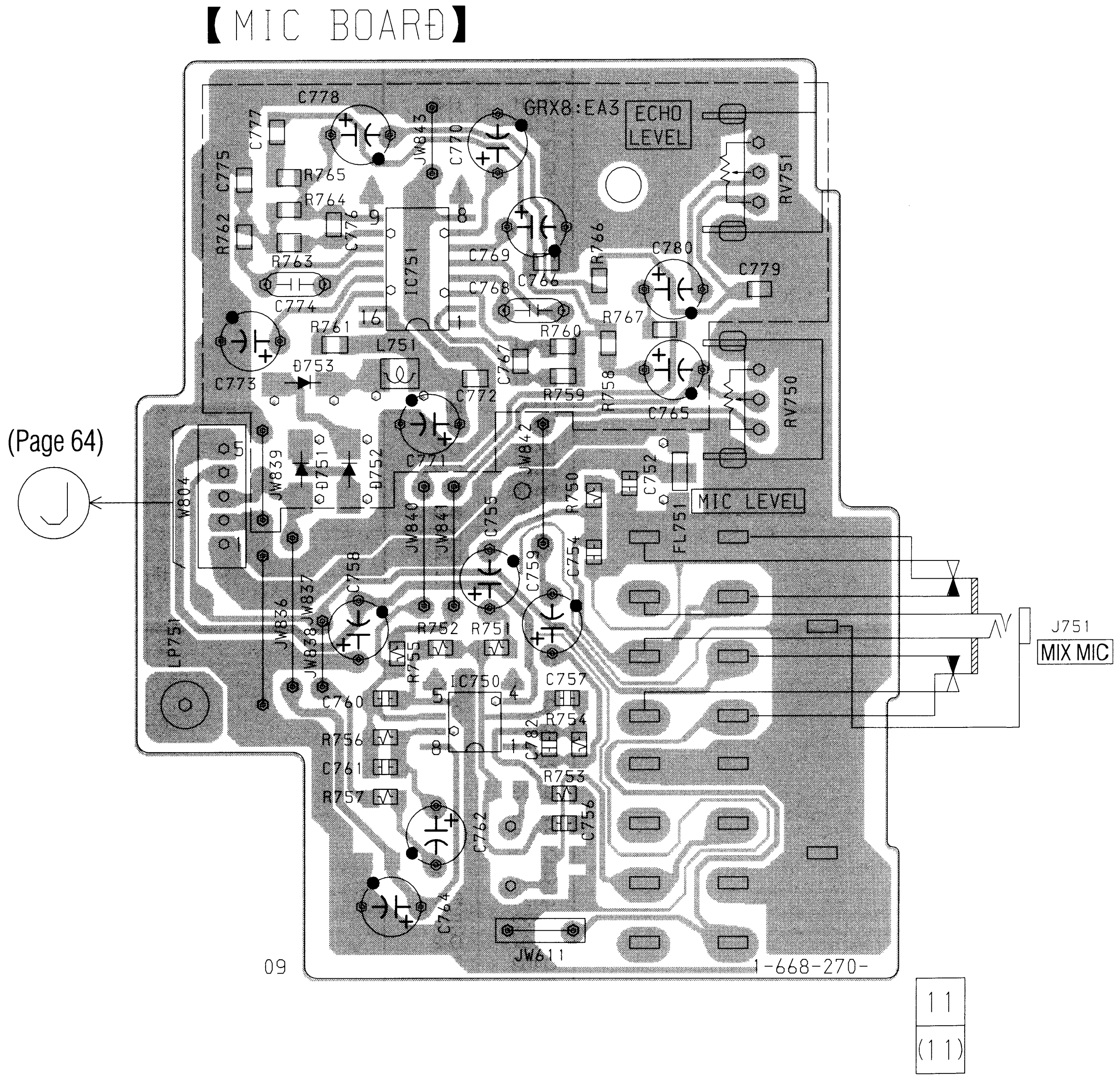
NOTE

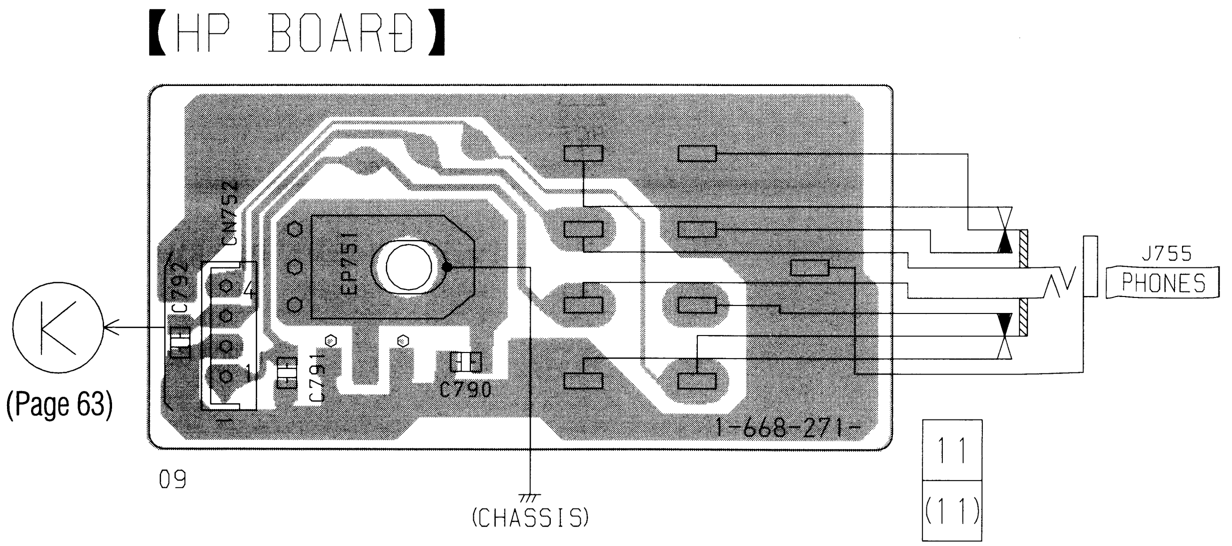
- Voltages and waveforms are dc with respect to ground under no-signal conditions.

  no mark:FM

7-17. PRINTED WIRING BOARD – MIC/HP SECTION –

• See page 20 for Circuit Boards Location.


【MIC BOARD】
GRX8:EA3
ECHO LEVEL
RV751
RV750
MIC LEVEL
IC751
IC750
(Page 64)
J
W804
J751
MIX MIC
JW611
LP751
1-668-270-
09
11
(11)


【HP BOARD】
CN752
EP751
C792
C791
C790
K
(Page 63)
J755
PHONES
1-668-271-
09
(CHASSIS)
11
(11)

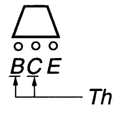
7-18. PRINTED WIRING BOARD – POWER SECTION –

• See page 20 for Circuit Boards Location.

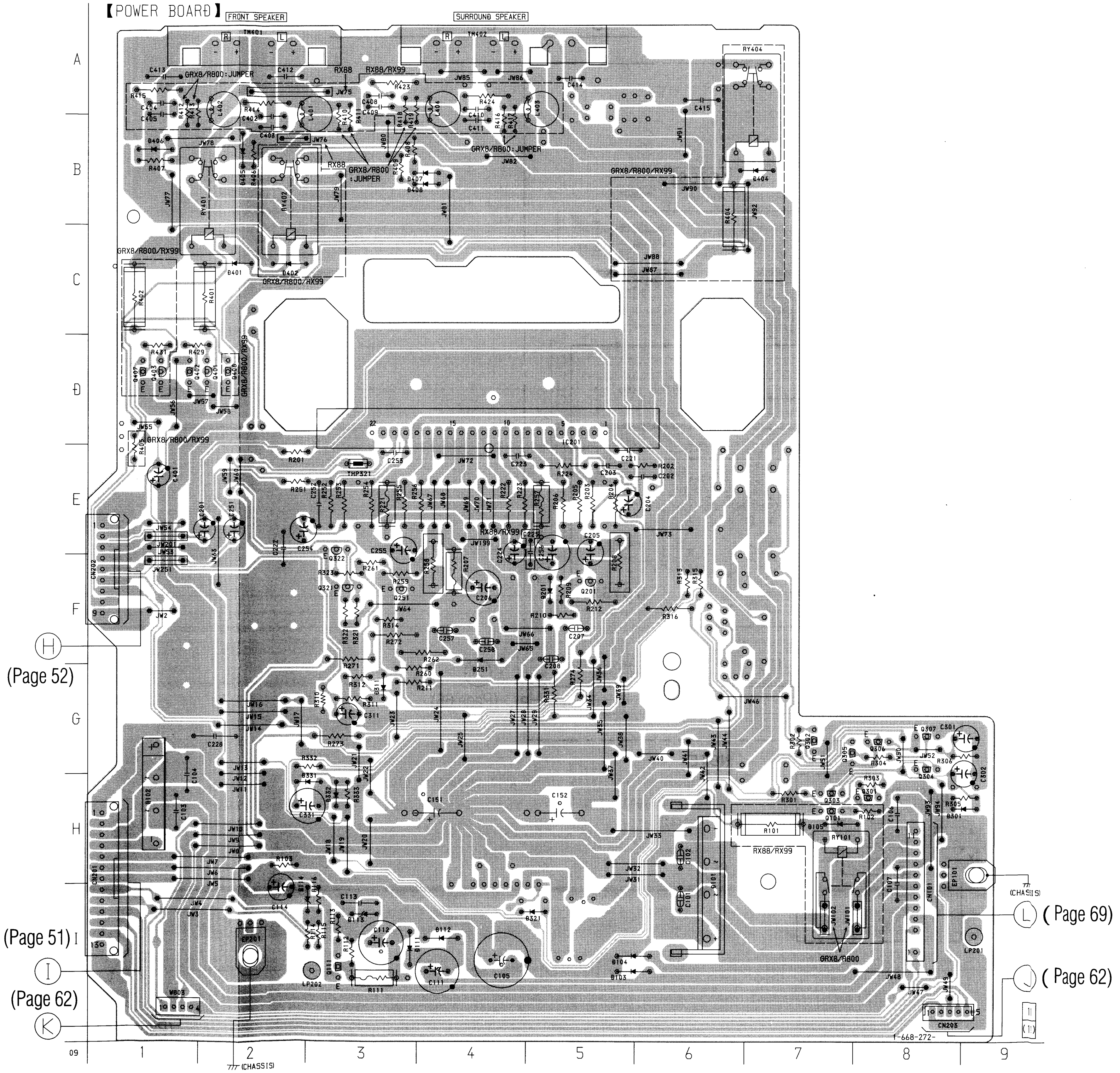
• Semiconductor Location

Ref. No.	Location
D101	H-6
D102	H-1
D103	I-5
D104	I-5
D105	H-7
D111	I-3
D112	I-4
D113	I-3
D114	I-3
D201	F-5
D251	F-4
D301	H-9
D311	G-3
D321	I-5
D331	H-3
D332	H-3
D401	C-2
D402	C-2
D404	B-7
D405	B-2
D406	B-1
D407	B-4
D408	B-4
IC201	D-5
Q101	H-7
Q111	I-3
Q201	F-5
Q251	F-3
Q301	H-8
Q302	G-7
Q303	H-7
Q304	G-8
Q305	G-7
Q306	G-8
Q307	G-8
Q321	F-3
Q322	E-3
Q401	D-2
Q402	D-1
Q403	D-1
Q407	D-1
Q408	D-2

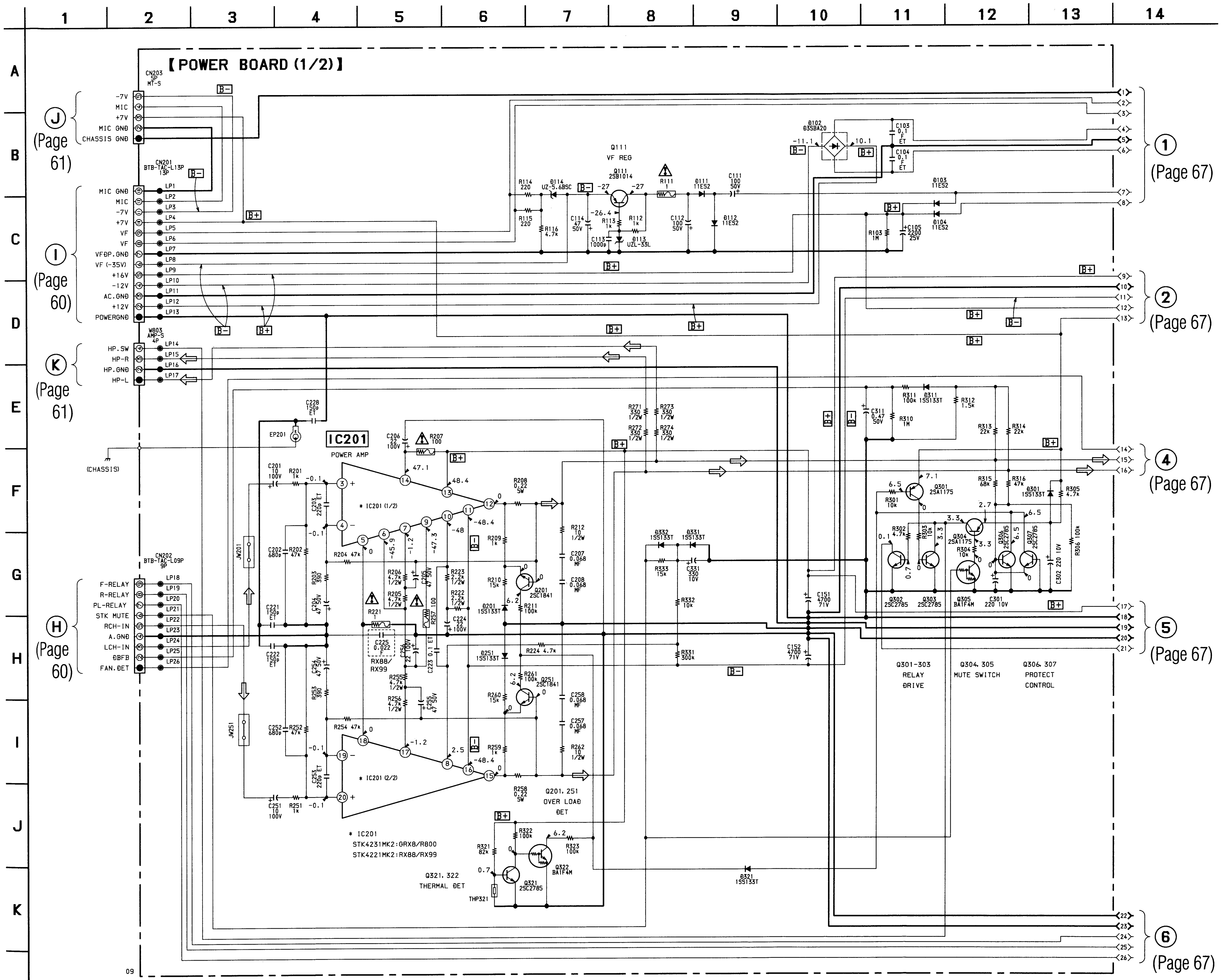
• Indication of transistor



These are omitted


【POWER BOARD】
FRONT SPEAKER
SURROUND SPEAKER
TM401
TM402
R
L
RY404
RY401
RY402
RY101
IC201
GRX8/R800:JUMPER
RX88/RX99
GRX8/R800/RX99
CN101
CN202
CN205
EP101
LP201
LP202
A
B
C
D
E
F
G
H
I
1
2
3
4
5
6
7
8
9
09
H
(Page 52)
(Page 51) I
I
(Page 62)
K
L
(Page 69)
J
(Page 62)
(CHASSIS)
1-668-272-

7-19. SCHEMATIC DIAGRAM – POWER SECTION –



1
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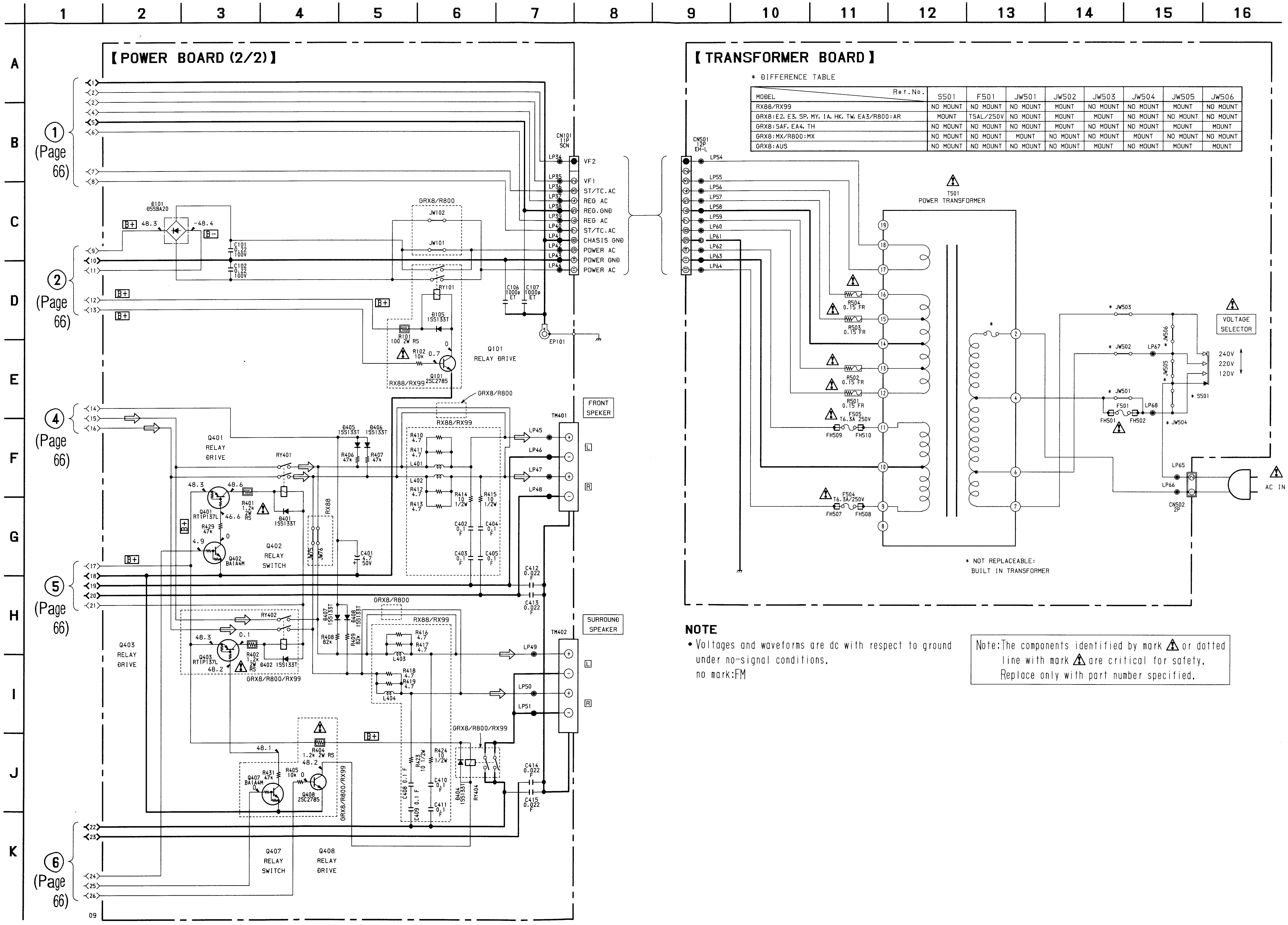
4
5
6
7
8
9
10
11
12
13
14
A
B
C
D
E
F
G
H
I
J
K
L
【POWER BOARD (1/2)】
CN203 5P MT-5
-7V
MIC
+7V
MIC GND
CHASSIS GND
J (Page 61)
CN201 BTB-TAC-L13P 13P
MIC GND
MIC
-7V
+7V
VF
VF
VFDP.GND
VF (-35V)
+16V
-12V
AC.GND
+12V
POWERGND
I (Page 60)
W803 AMP-5 4P
HP.SW
HP-R
HP.GND
HP-L
K (Page 61)
(CHASSIS)
CN202 BTB-TAC-L09P 9P
F-RELAY
R-RELAY
PL-RELAY
STK MUTE
RCH-IN
A.GND
LCH-IN
DBFB
FAN.DET
H (Page 60)
Q111 VF REG
Q111 2SB1014
D114 UZ-5.6BSC
R111 1
D111 11ES2
C111 100 50V
D112 11ES2
D113 UZL-33L
D102 D3SBA20
C103 0.1 F ET
C104 0.1 F ET
D103 11ES2
D104 11ES2
C105 2200 25V
R103 1M
① (Page 67)
② (Page 67)
IC201 POWER AMP
* IC201 (1/2)
* IC201 (2/2)
EP201
C228 150p ET
C206 22 100V
R207 100
R208 0.22 5W
R258 0.22 5W
Q201, 251 OVER LOAD DET
Q201 2SC1841
Q251 2SC1841
R225 0.022 F
RX88/RX99
JW201
JW251
R271 330 1/2W
R273 330 1/2W
R272 330 1/2W
R274 330 1/2W
D332 1SS133T
D331 1SS133T
C331 330 10V
C151 4700 71V
C152 4700 71V
Q301 2SA1175
Q304 2SA1175
Q302 2SC2785
Q303 2SC2785
Q305 BA1F4M
Q306 2SC2785
Q307 2SC2785
C301 220 10V
C302 220 10V
Q301-303 RELAY DRIVE
Q304, 305 MUTE SWITCH
Q306, 307 PROTECT CONTROL
④ (Page 67)
⑤ (Page 67)
⑥ (Page 67)
* IC201
STK4231MK2:GRX8/R800
STK4221MK2:RX88/RX99
Q321, 322 THERMAL DET
Q321 2SC2785
Q322 BA1F4M
THP321
D321 1SS133T
09

Note:The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

NOTE
- Voltages and waveforms are dc with respect to ground under no-signal conditions.
no mark:FM

7-20. SCHEMATIC DIAGRAM – TRANSFORMER SECTION –

• See page 63 for Printed Wiring Board. (POWER BOARD)


1
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7
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9
10
11
12
13
14
15
16
A
B
C
D
E
F
G
H
I
J
K
【POWER BOARD (2/2)】
① (Page 66)
② (Page 66)
④ (Page 66)
⑤ (Page 66)
⑥ (Page 66)
D101 05SBA20
B+
B-
48.3
-48.4
C101 0.22 100V
C102 0.22 100V
GRX8/R800
JW102
JW101
RY101
D105 1SS133T
R101 100 2W RS
R102 10k
0.7
0
Q101 2SC2785
Q101 RELAY DRIVE
RX88/RX99
C106 1000p ET
C107 1000p ET
EP101
CN101 11P SCN
LP34
LP35
LP36
LP37
LP38
LP39
LP40
LP41
LP42
LP43
LP44
VF2
VF1
ST/TC.AC
REG AC
REG.GND
REG AC
ST/TC.AC
CHASIS GND
POWER AC
POWER GND
POWER AC
Q401 RELAY DRIVE
RY401
D405 1SS133T
D406 1SS133T
R406 47k
R407 47k
R410 4.7
R411 4.7
L401
L402
R412 4.7
R413 4.7
R414 10 1/2W
R415 10 1/2W
C402 0.1 F
C404 0.1 F
C403 0.1 F
C405 0.1 F
FRONT SPEKER
TM401
LP45
LP46
LP47
LP48
L
R
Q401 RT1P137L
48.3
48.6
46.6
R401 1.2k 2W RS
D401 1SS133T
R429 47k
4.9
Q402 BA1A4M
Q402 RELAY SWITCH
JW75
JW76
C401 4.7 50V
C412 0.022 F
C413 0.022 F
Q403 RELAY DRIVE
RY402
0.1
Q403 RT1P137L
48.2
R402 1.2k 2W RS
D402 1SS133T
GRX8/R800/RX99
D407 1SS133T
D408 1SS133T
R408 82k
R409 82k
R416 4.7
R417 4.7
L403
R418 4.7
R419 4.7
L404
SURROUND SPEAKER
TM402
LP49
LP50
LP51
48.1
R404 1.2k 2W RS
48.2
R431 47k
R405 10k
Q407 BA1A4M
Q408 2SC2785
C408 0.1 F
C409 0.1 F
R423 10 1/2W
R424 10 1/2W
C410 0.1 F
C411 0.1 F
D404 1SS133T
RY404
C414 0.022 F
C415 0.022 F
Q407 RELAY SWITCH
Q408 RELAY DRIVE
09
【TRANSFORMER BOARD】
CN501 12P EH-L
LP54
LP55
LP56
LP57
LP58
LP59
LP60
LP61
LP62
LP63
LP64
T501 POWER TRANSFORMER
R504 0.15 FR
R503 0.15 FR
R502 0.15 FR
R501 0.15 FR
F505 T6.3A 250V
FH509
FH510
F504 T6.3A/250V
FH507
FH508
* JW503
* JW502
LP67
* JW506
* JW505
* JW501
F501
LP68
FH501
FH502
* JW504
* S501
VOLTAGE SELECTOR
240V
220V
120V
LP65
LP66
CN502 2P
AC IN
* NOT REPLACEABLE: BUILT IN TRANSFORMER

* DIFFERENCE TABLE

MODEL \ Ref.No.	S501	F501	JW501	JW502	JW503	JW504	JW505	JW506
RX88/RX99	NO MOUNT	NO MOUNT	NO MOUNT	MOUNT	NO MOUNT	NO MOUNT	MOUNT	NO MOUNT
GRX8:E2, E3, SP, MY, IA, HK, TW, EA3/R800:AR	MOUNT	T5AL/250V	NO MOUNT	MOUNT	MOUNT	NO MOUNT	NO MOUNT	NO MOUNT
GRX8:SAF, EA4, TH	NO MOUNT	NO MOUNT	NO MOUNT	MOUNT	NO MOUNT	NO MOUNT	MOUNT	MOUNT
GRX8:MX/R800:MX	NO MOUNT	NO MOUNT	MOUNT	NO MOUNT	NO MOUNT	MOUNT	NO MOUNT	NO MOUNT
GRX8:AUS	NO MOUNT	NO MOUNT	NO MOUNT	NO MOUNT	MOUNT	NO MOUNT	MOUNT	MOUNT

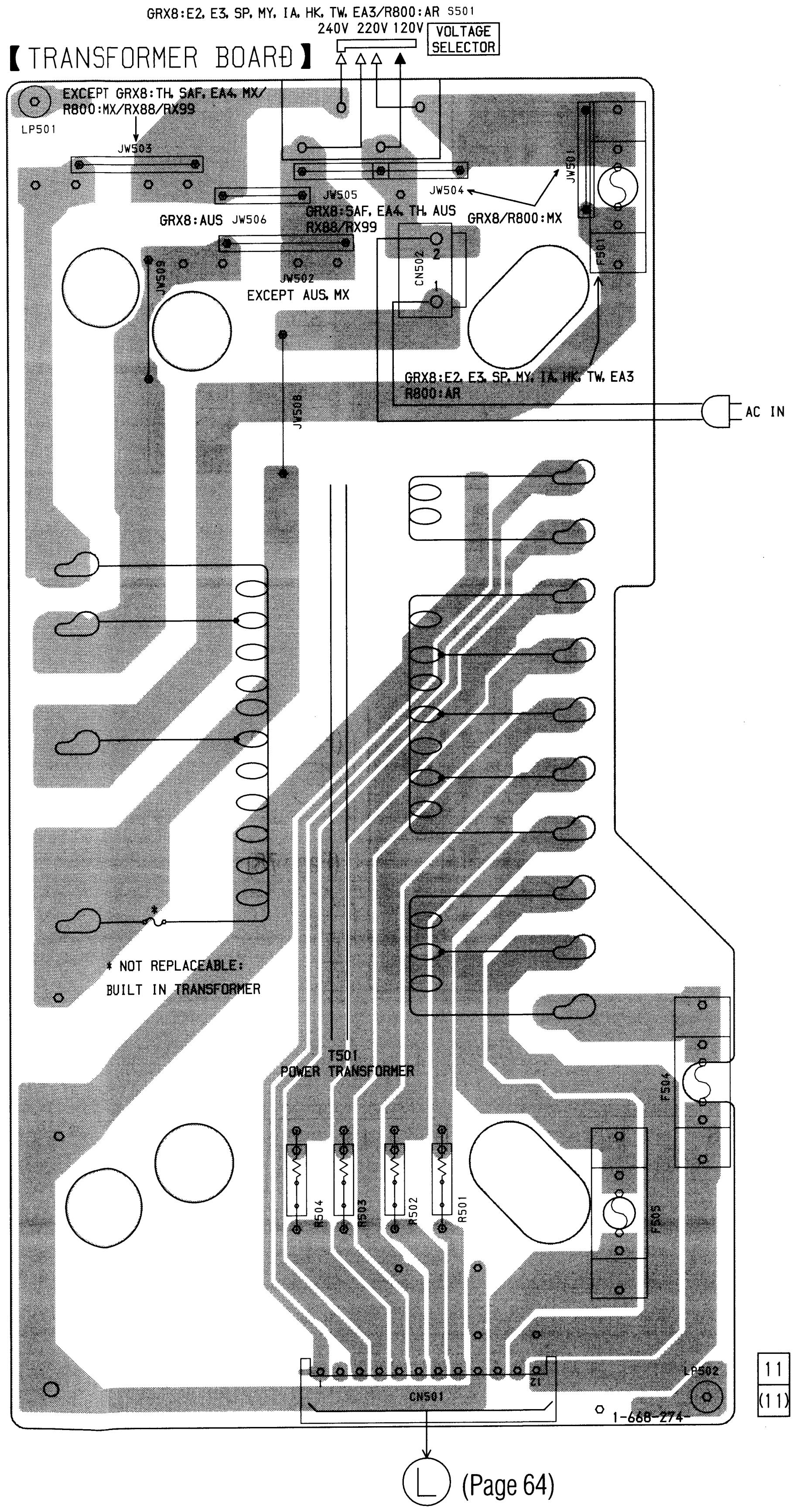
NOTE

- Voltages and waveforms are dc with respect to ground under no-signal conditions.
  no mark:FM

Note:The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

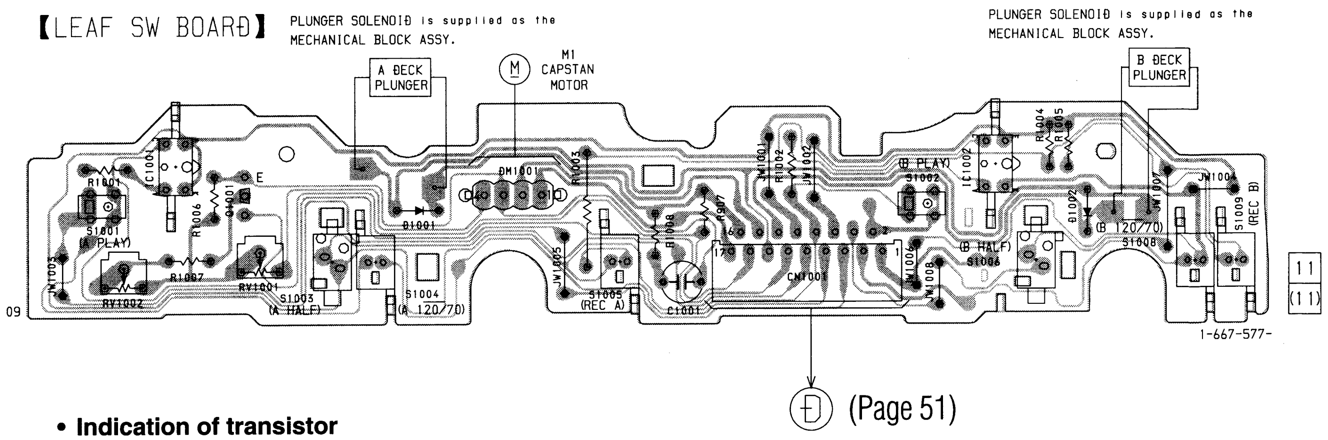
7-21. PRINTED WIRING BOARD – TRANSFORMER SECTION –

- **See page 20 for Circuit Boards Location.**

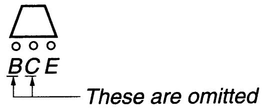

GRX8:E2, E3, SP, MY, IA, HK, TW, EA3/R800:AR S501
240V 220V 120V
VOLTAGE SELECTOR
【TRANSFORMER BOARD】
EXCEPT GRX8:TH, SAF, EA4, MX/
R800:MX/RX88/RX99
LP501
JW503
JW505
JW504
GRX8:SAF, EA4, TH, AUS
RX88/RX99
GRX8/R800:MX
GRX8:AUS JW506
JW501
CN502
2
1
F501
JW509
JW502
EXCEPT AUS, MX
GRX8:E2, E3, SP, MY, IA, HK, TW, EA3
R800:AR
JW508
AC IN
* NOT REPLACEABLE:
BUILT IN TRANSFORMER
T501
POWER TRANSFORMER
R504
R503
R502
R501
F504
F505
12
CN501
LP502
1-668-274-
11
(11)
L (Page 64)

7-22. PRINTED WIRING BOARD – LEAF SW SECTION –

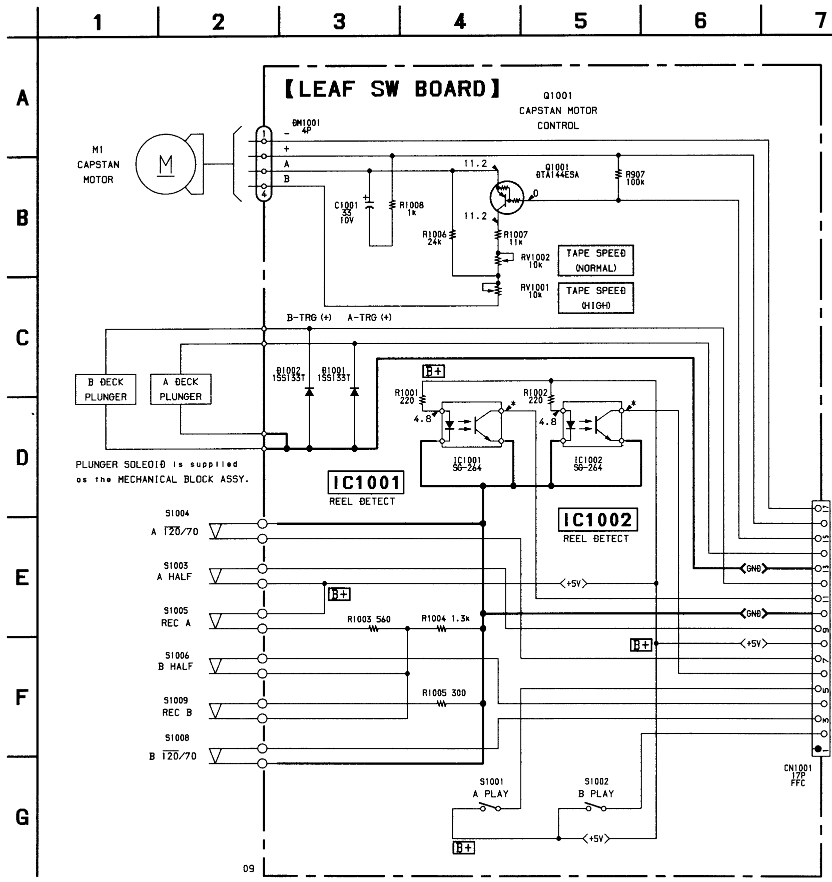
- **See page 20 for Circuit Boards Location.**


【LEAF SW BOARD】
PLUNGER SOLENOID is supplied as the MECHANICAL BLOCK ASSY.
A DECK PLUNGER
M
M1 CAPSTAN MOTOR
PLUNGER SOLENOID is supplied as the MECHANICAL BLOCK ASSY.
B DECK PLUNGER
R1001
IC1001
E
R1006
Q1001
S1001
(A PLAY)
JW1003
RV1002
R1007
RV1001
S1003
(A HALF)
D1001
DM1001
S1004
(A 120/70)
R1003
JW1005
S1005
(REC A)
R1008
R907
C1001
JW1001
R1002
JW1002
17
16
2
1
CN1001
JW1006
JW1008
(B PLAY)
S1002
(B HALF)
S1006
IC1002
R1004
R1005
D1002
(B 120/70)
S1008
JW1007
JW1004
S1009
(REC B)
09
1-667-577-
11
(11)
D (Page 51)

- **Indication of transistor**


B C E
These are omitted

7-23. SCHEMATIC DIAGRAM – LEAF SW SECTION –


1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
G
【LEAF SW BOARD】
Q1001
CAPSTAN MOTOR
CONTROL
DM1001
4P
M1
CAPSTAN
MOTOR
M
1
4
–
+
A
B
C1001
33
10V
R1008
1k
11.2
11.2
Q1001
BTA144ESA
0
R907
100k
R1006
24k
R1007
11k
RV1002
10k
TAPE SPEED
(NORMAL)
RV1001
10k
TAPE SPEED
(HIGH)
B-TRG (+)
A-TRG (+)
B DECK
PLUNGER
A DECK
PLUNGER
D1002
1SS133T
D1001
1SS133T
B+
R1001
220
R1002
220
4.8
4.8
*
*
IC1001
SG-264
IC1002
SG-264
PLUNGER SOLEOID is supplied as the MECHANICAL BLOCK ASSY.
IC1001
REEL DETECT
IC1002
REEL DETECT
S1004
A 120/70
S1003
A HALF
S1005
REC A
S1006
B HALF
S1009
REC B
S1008
B 120/70
R1003 560
R1004 1.3k
R1005 300
+5V
GND
S1001
A PLAY
S1002
B PLAY
09
CN1001
17P
FFC
17
15
13
11
9
7
5
3
1
CAPM (–)
CAPM (+)
CAP.M H/$\overline{N}$
TRG/A
TRG/GND
TRG/B
A SHUT
D.GND
A HALF
+5V
A $\overline{120}$/70
B SHUT
A PLAY.SW
B HALF/A SIDE REC/B SIDE REC
B $\overline{120}$/70
B PLAY.SW
N.C
D
(Page 54)

NOTE

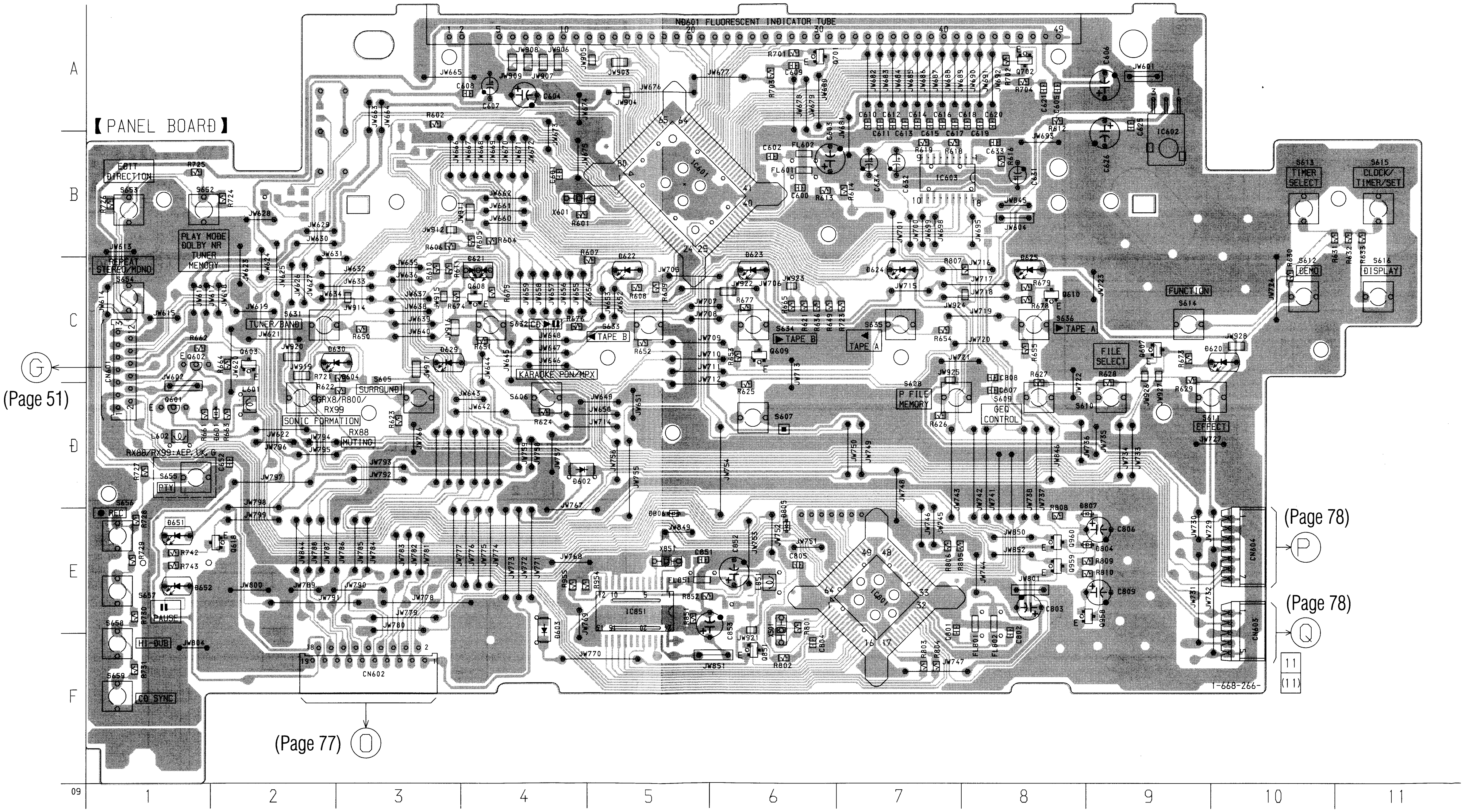
- Voltages and waveforms are dc with respect to ground under no-signal conditions.
  no mark:PLAY
  (   ) :REC
  * :can not be measured.

7-24. PRINTED WIRING BOARD – DISPLAY SECTION –

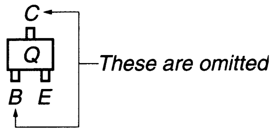
• See page 20 for Circuit Boards Location.

- **Semiconductor Location**

Ref. No.	Location
D601	D-2
D602	D-4
D603	D-4
D620	C-10
D621	C-4
D622	C-5
D623	C-6
D624	C-7
D625	C-8
D629	C-3
D630	C-2
D651	E-1
D652	E-1
D804	I-17
D805	E-6
D806	E-5
D807	E-9
IC601	B-5
IC602	A-9
IC603	B-7
IC801	E-7
IC851	E-5
Q601	D-1
Q602	C-1
Q603	C-2
Q607	C-9
Q608	C-4
Q609	C-6
Q610	C-8
Q618	E-2
Q701	A-6
Q702	A-8
Q851	F-6
Q958	E-9
Q959	E-8
Q960	E-8

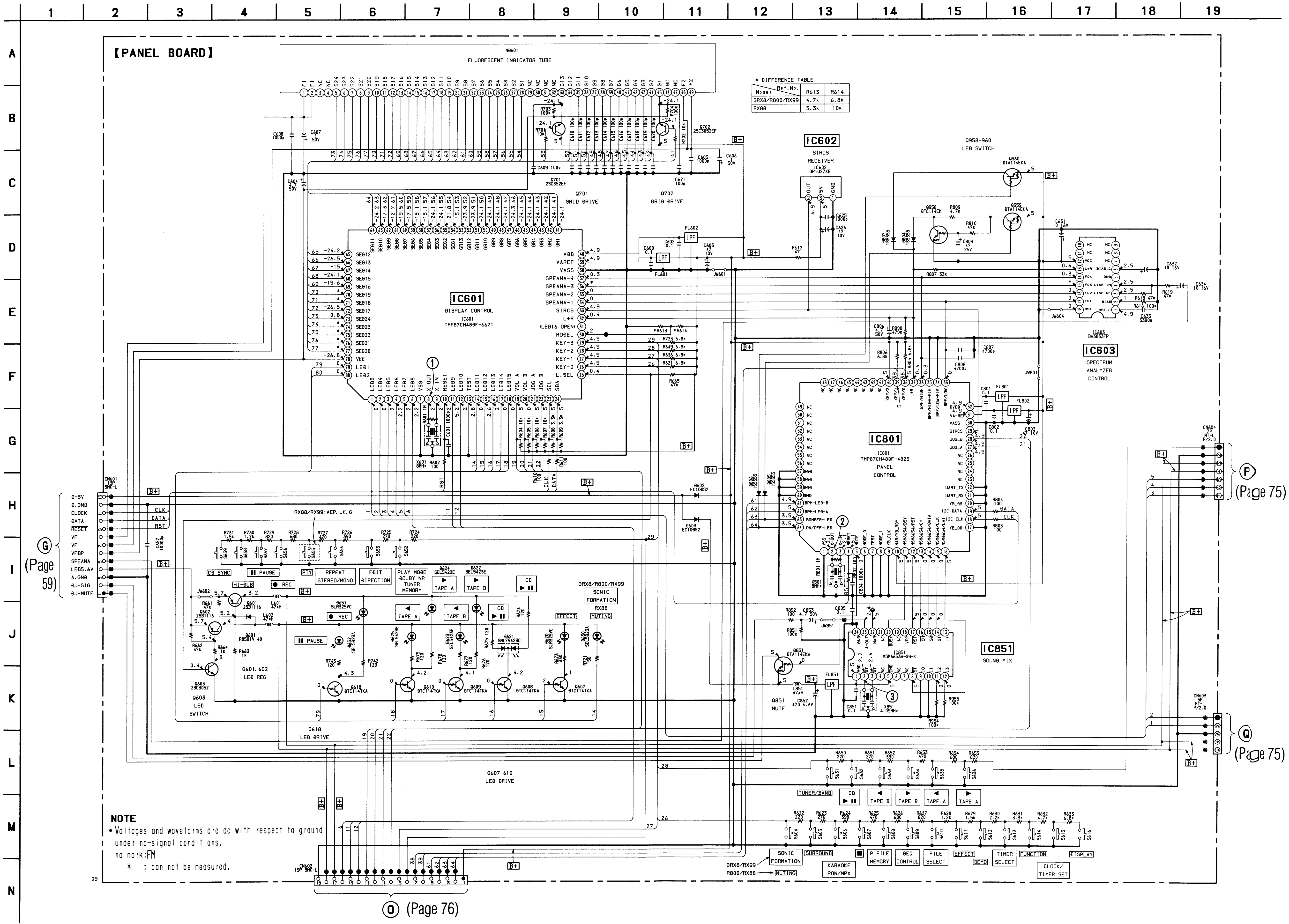

【PANEL BOARD】
ND601 FLUORESCENT INDICATOR TUBE
A
B
C
D
E
F
1
2
3
4
5
6
7
8
9
10
11
09
(Page 51)
G
(Page 78)
P
(Page 78)
Q
(Page 77)
O
EDIT DIRECTION
PLAY MODE BOLBY NR TUNER MEMORY
REPEAT STEREO/MONO
TUNER/BAND
SURROUND
SONIC FORMATION
RX88 MUTING
GRX8/R800/RX99
RX88/RX99:AEP, UK, G
RTY
REC
PAUSE
HI-DUB
CD SYNC
KARAOKE PON/MPX
CD
TAPE B
TAPE A
P FILE MEMORY
GEQ CONTROL
FILE SELECT
EFFECT
FUNCTION
TIMER SELECT
CLOCK/TIMER/SET
DEMO
DISPLAY
IC601
IC602
IC603
IC801
IC851
CN601
CN602
CN603
CN604
1-668-266-
11
(11)

- **Indication of transistor**


C
Q
B E
These are omitted

7-25. SCHEMATIC DIAGRAM – DISPLAY SECTION –

- See page 36 for Waveforms.
- See page 87 for IC Block Diagrams.
- See page 96 for IC Pin Functions.


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
A
B
C
D
E
F
G
H
I
J
K
L
M
N
【PANEL BOARD】
ND601
FLUORESCENT INDICATOR TUBE
IC601
DISPLAY CONTROL
IC601
TMP87CH48DF-6671
IC602
SIRCS
RECEIVER
IC602
GP1U27XB
IC603
SPECTRUM
ANALYZER
CONTROL
IC603
BA3835FP
IC801
IC801
TMP87CH48DF-4825
PANEL
CONTROL
IC851
SOUND MIX
IC851
MSM6653A-05-K
Q701
GRID DRIVE
Q702
GRID DRIVE
Q958-960
LED SWITCH
Q601, 602
LED REG
Q603
LED
SWITCH
Q618
LED DRIVE
Q607-610
LED DRIVE
Q851
MUTE
CN601
13P
SMK-L
CN602
19P SMK-L
CN603
5P
MT-L
P/2.0
CN604
7P
MT-L
P/2.0
D+5V
D.GND
CLOCK
DATA
RESET
VF
VF
VFDP
SPEANA
LED5.6V
A.GND
DJ-SIG
DJ-MUTE
G
(Page 59)
F
(Page 75)
Q
(Page 75)
O
(Page 76)
RX88/RX99:AEP, UK, O
CD SYNC
▮▮ PAUSE
PTY
REPEAT
STEREO/MONO
EDIT
DIRECTION
PLAY MODE
DOLBY NR
TUNER
MEMORY
▶
TAPE A
▶
TAPE B
CD
▶ ▮▮
HI-DUB
● REC
● REC
▮▮ PAUSE
◀
TAPE A
◀
TAPE B
CD
▶ ▮▮
EFFECT
GRX8/R800/RX99
SONIC
FORMATION
RX88
MUTING
TUNER/BAND
CD
▶ ▮▮
◀
TAPE B
▶
TAPE B
◀
TAPE A
▶
TAPE A
SONIC
FORMATION
SURROUND
■
P FILE
MEMORY
GEQ
CONTROL
FILE
SELECT
EFFECT
DEMO
TIMER
SELECT
FUNCTION
DISPLAY
KARAOKE
PON/MPX
CLOCK/
TIMER SET
GRX8/RX99
R800/RX88
MUTING
X601
8MHz
X501
8MHz
X851
4.09MHz
① ② ③
09

* DIFFERENCE TABLE

Ref.No. / Model	R613	R614
GRX8/R800/RX99	4.7k	6.8k
RX88	3.3k	10k

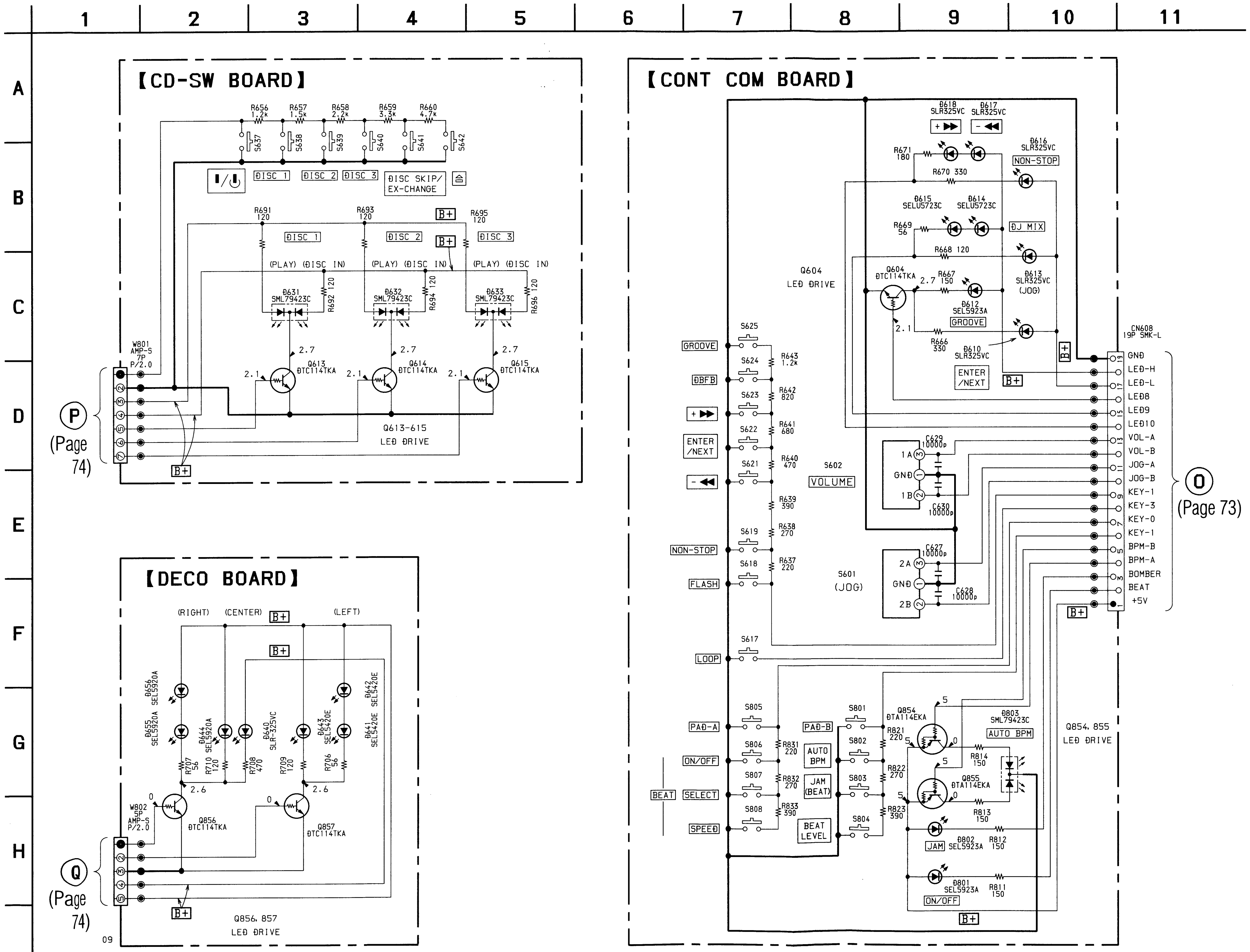
NOTE

- Voltages and waveforms are dc with respect to ground under no-signal conditions.

no mark:FM

* : can not be measured.

7-26. SCHEMATIC DIAGRAM – PANEL SECTION –

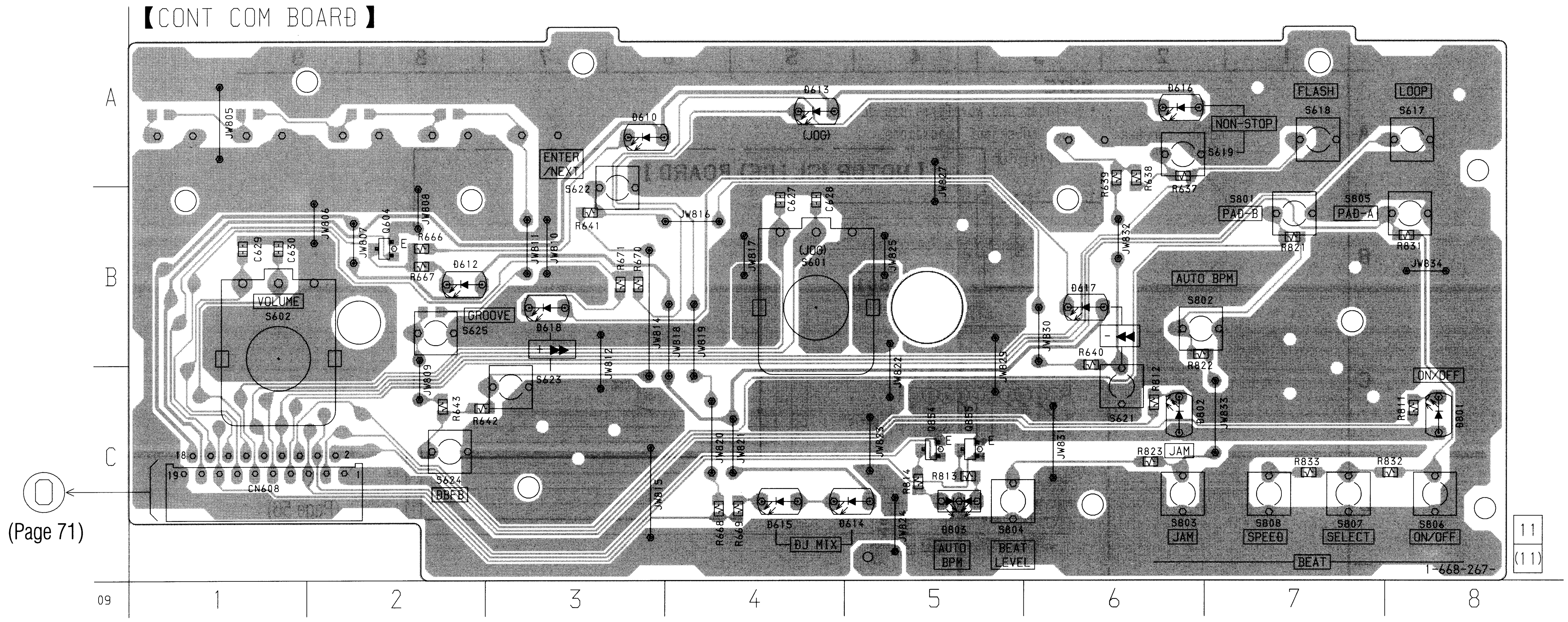

1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
F
G
H
I
【CD-SW BOARD】
R656 1.2k
R657 1.5k
R658 2.2k
R659 3.3k
R660 4.7k
S637
S638
S639
S640
S641
S642
I/⏻
DISC 1
DISC 2
DISC 3
DISC SKIP/ EX-CHANGE
⏏
R691 120
R693 120
R695 120
B+
(PLAY) (DISC IN)
D631 SML79423C
D632 SML79423C
D633 SML79423C
R692 120
R694 120
R696 120
2.7
2.1
Q613 DTC114TKA
Q614 DTC114TKA
Q615 DTC114TKA
Q613-615 LED DRIVE
W801 AMP-S 7P P/2.0
Ⓟ
(Page 74)
【DECO BOARD】
(RIGHT)
(CENTER)
(LEFT)
D656 SEL5920A
D655 SEL5920A
D644 SEL5920A
D640 SLR-325VC
D643 SEL5420E
D642 SEL5420E
D641 SEL5420E
R707 56
R710 120
R708 470
R709 120
R706 56
2.6
0
Q856 DTC114TKA
Q857 DTC114TKA
W802 5P AMP-S P/2.0
Ⓠ
(Page 74)
Q856, 857 LED DRIVE
09
【CONT COM BOARD】
D618 SLR325VC
D617 SLR325VC
+▶▶
–◀◀
R671 180
D616 SLR325VC
NON-STOP
R670 330
D615 SELU5723C
D614 SELU5723C
R669 56
DJ MIX
R668 120
Q604 LED DRIVE
Q604 DTC114TKA
2.7
R667 150
D613 SLR325VC (JOG)
D612 SEL5923A
GROOVE
2.1
R666 330
D610 SLR325VC
ENTER /NEXT
S625
S624
S623
S622
S621
S619
S618
S617
R643 1.2k
R642 820
R641 680
R640 470
R639 390
R638 270
R637 220
GROOVE
DBFB
+▶▶
ENTER /NEXT
–◀◀
NON-STOP
FLASH
LOOP
S602
VOLUME
C629 10000p
1A
GND
1B
C630 10000p
C627 10000p
2A
2B
C628 10000p
S601 (JOG)
CN608 19P SMK-L
GND
LED-H
LED-L
LED8
LED9
LED10
VOL-A
VOL-B
JOG-A
JOG-B
KEY-1
KEY-3
KEY-0
KEY-1
BPM-B
BPM-A
BOMBER
BEAT
+5V
Ⓞ
(Page 73)
S805
S806
S807
S808
PAD-A
ON/OFF
BEAT
SELECT
SPEED
R831 220
R832 270
R833 390
S801
S802
S803
S804
PAD-B
AUTO BPM
JAM (BEAT)
BEAT LEVEL
Q854 DTA114EKA
R821 220
R822 270
R823 390
5
0
D803 SML79423C
AUTO BPM
R814 150
Q855 DTA114EKA
R813 150
D802 SEL5923A
JAM
R812 150
D801 SEL5923A
R811 150
ON/OFF
Q854, 855 LED DRIVE

NOTE

- Voltages and waveforms are dc with respect to ground under no-signal conditions.
no mark:FM

7-27. PRINTED WIRING BOARD – PANEL SECTION –

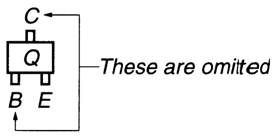
• See page 20 for Circuit Boards Location.

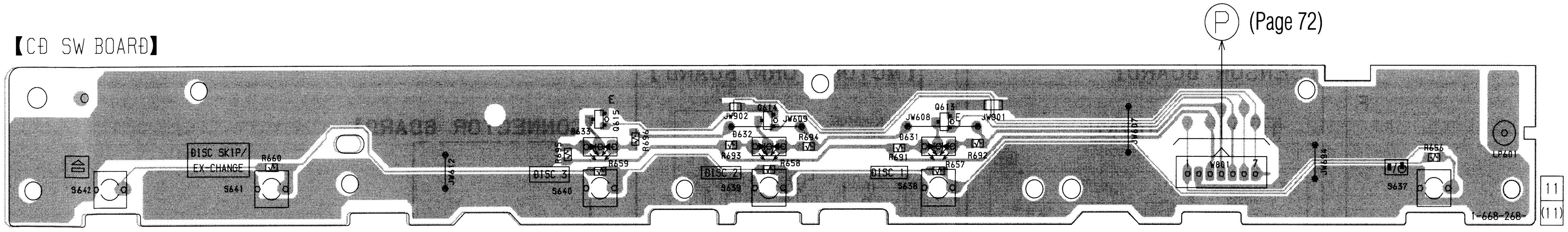

【CONT COM BOARD】
A
B
C
1
2
3
4
5
6
7
8
09
JW805
D610
D613
(JOG)
D616
NON-STOP
FLASH
S618
LOOP
S617
ENTER /NEXT
S622
R641
JW816
JW827
C627
C628
S619
R639
R638
R637
S801
PAD-B
S805
PAD-A
R821
R831
JW806
JW807
Q604
JW808
R666
R667
D612
C629
C630
JW811
JW810
R671
R670
JW817
(JOG) S601
JW825
JW832
JW834
VOLUME
S602
GROOVE
S625
D618
JW814
JW818
JW819
D617
AUTO BPM
S802
R640
R822
S623
JW809
JW812
JW822
JW829
JW830
S621
R812
ON/OFF
R643
R642
D802
JW833
R811
D801
Q854
Q855
JW823
JW831
R823
JAM
R833
R832
S624
BBFB
CN608
JW815
JW820
JW821
R814
R813
D803
S804
R668
R669
D615
D614
DJ MIX
JW824
AUTO BPM
BEAT LEVEL
S803
JAM
S808
SPEED
S807
SELECT
S806
ON/OFF
BEAT
1-668-267-
11
(11)
O
(Page 71)

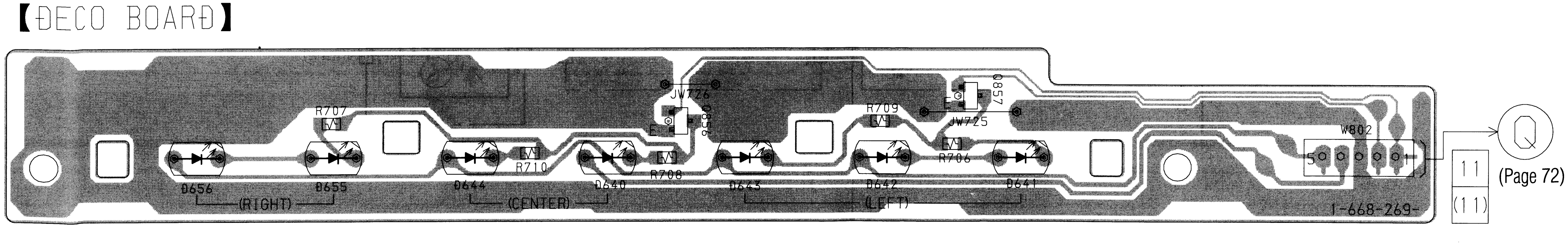
• Semiconductor Location

Ref. No.	Location
D610	A-3
D612	B-2
D613	A-4
D614	C-5
D615	C-4
D616	A-6
D617	B-6
D618	B-3
D801	C-8
D802	C-6
D803	C-5
Q604	B-2
Q854	C-5
Q855	C-5

• Indication of transistor

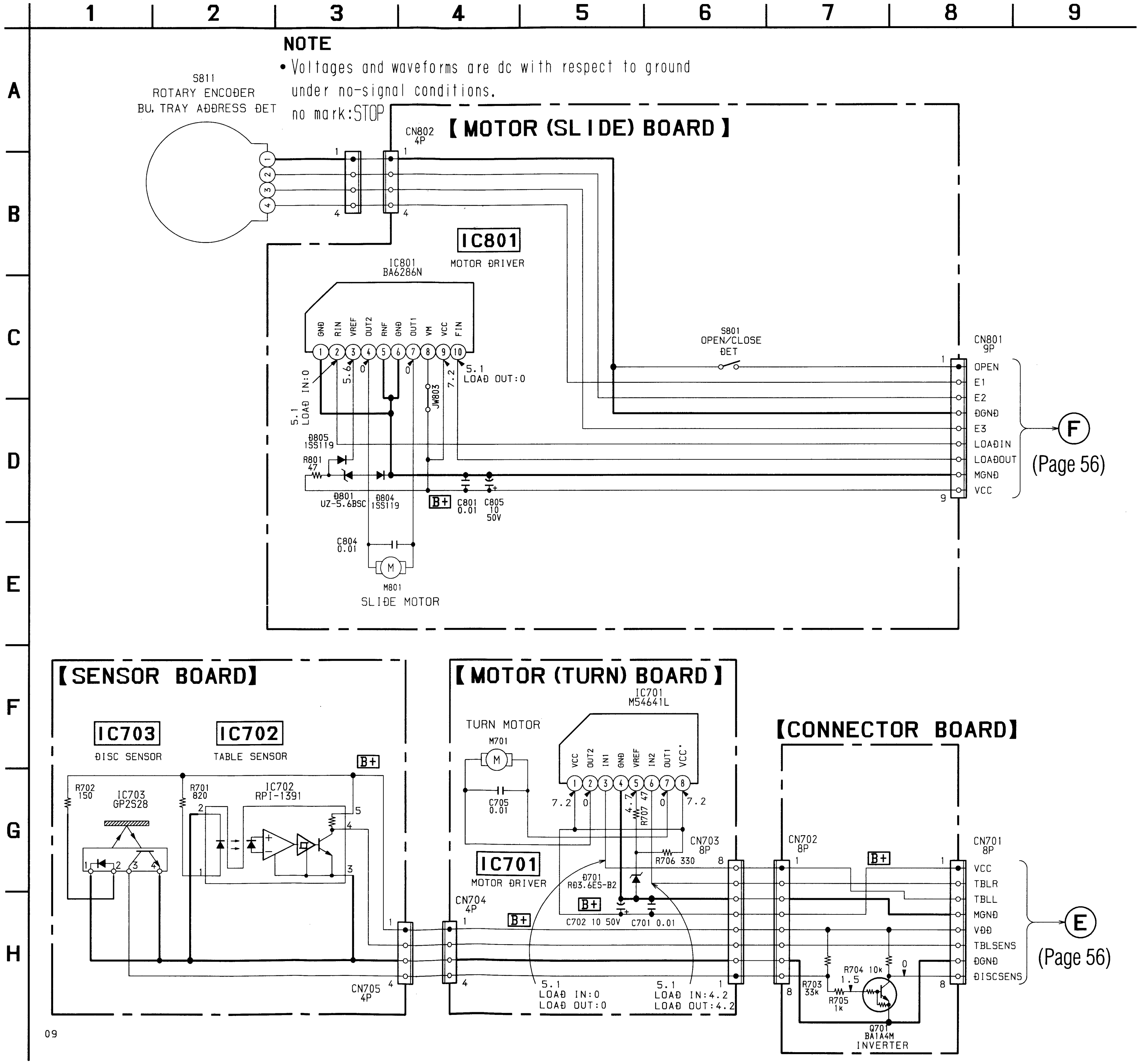

C
Q
B E
These are omitted


【CD SW BOARD】
P
(Page 72)
DISC SKIP/ EX-CHANGE
R660
S642
S641
JW612
D615
D633
R659
DISC 3
S640
JW902
D614
D632
JW609
R694
R693
R658
DISC 2
S639
JW608
D613
D631
JW901
R691
R692
R657
DISC 1
S638
JW607
W801
JW606
R655
S637
LP601
11
(11)
1-668-268-


【DECO BOARD】
JW726
Q856
Q857
R707
R709
JW725
W802
R710
R708
R706
D656
D655
(RIGHT)
D644
D640
(CENTER)
D643
D642
D641
(LEFT)
1-668-269-
11
(11)
Q
(Page 72)

7-28. SCHEMATIC DIAGRAM – CD MOTOR SECTION –

• See page 87 for IC Block Diagrams.



NOTE

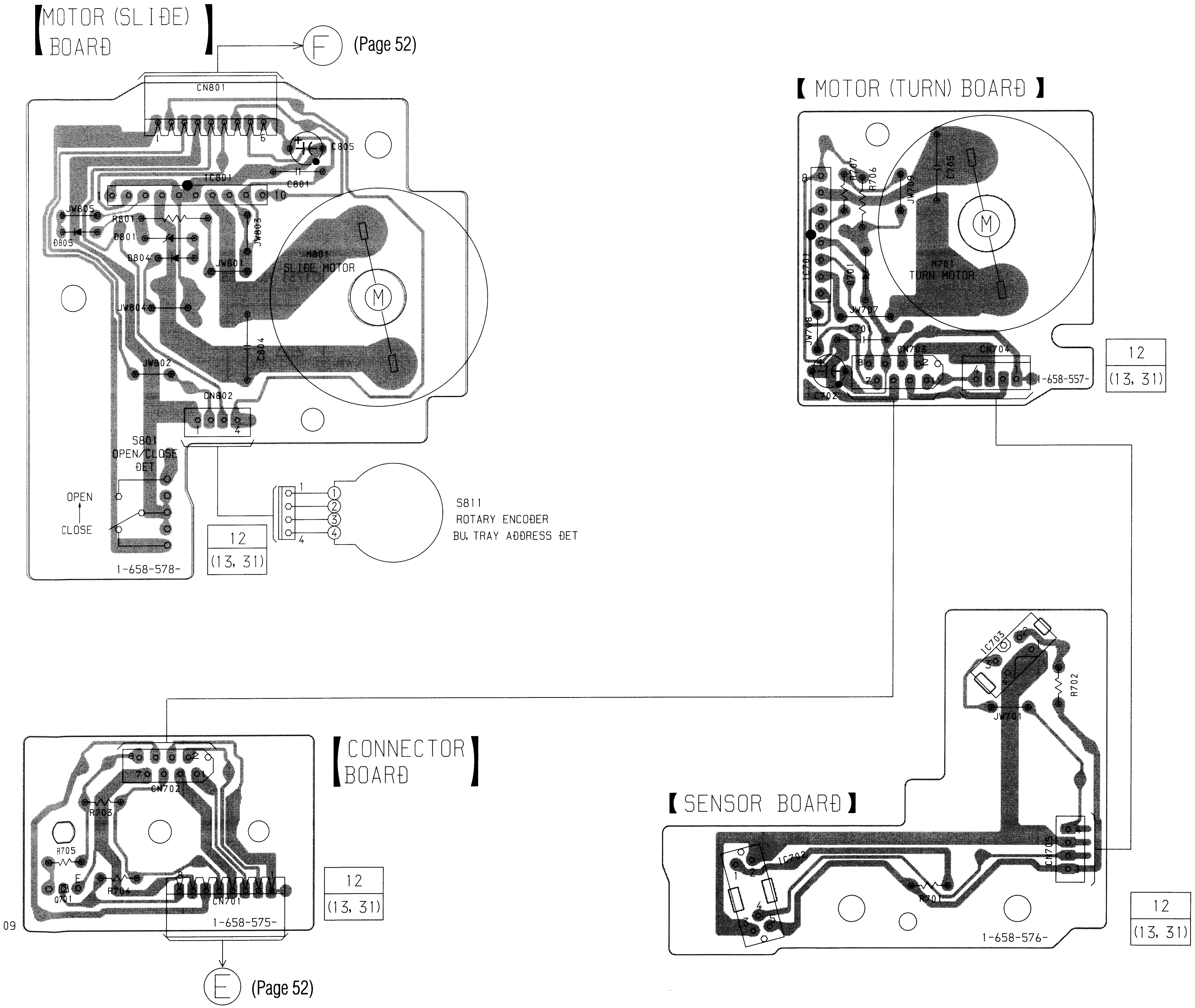
• Voltages and waveforms are dc with respect to ground under no-signal conditions.

no mark: STOP

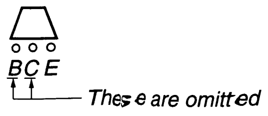
1
2
3
4
5
6
7
8
9
A
B
C
D
E
F
G
H
S811
ROTARY ENCODER
BU. TRAY ADDRESS DET
CN802
4P
[MOTOR (SLIDE) BOARD]
IC801
IC801
BA6286N
MOTOR DRIVER
GND
RIN
VREF
OUT2
RNF
GND
OUT1
VM
VCC
FIN
5.1
LOAD IN:0
5.6
0
0
7.2
5.1
LOAD OUT:0
JW803
D805
1SS119
R801
47
D801
UZ-5.6BSC
D804
1SS119
B+
C801
0.01
C805
10
50V
C804
0.01
M801
SLIDE MOTOR
S801
OPEN/CLOSE
DET
CN801
9P
OPEN
E1
E2
DGND
E3
LOADIN
LOADOUT
MGND
VCC
F
(Page 56)
[SENSOR BOARD]
IC703
DISC SENSOR
IC702
TABLE SENSOR
B+
R702
150
IC703
GP2S28
R701
820
IC702
RPI-1391
CN705
4P
09
[MOTOR (TURN) BOARD]
IC701
M54641L
TURN MOTOR
M701
C705
0.01
VCC
OUT2
IN1
GND
VREF
IN2
OUT1
VCC
7.2
0
4.7
R707 47
0
7.2
CN703
8P
R706 330
IC701
MOTOR DRIVER
D701
RD3.6ES-B2
CN704
4P
B+
B+
C702 10 50V
C701 0.01
5.1
LOAD IN:0
LOAD OUT:0
5.1
LOAD IN:4.2
LOAD OUT:4.2
[CONNECTOR BOARD]
CN702
8P
B+
CN701
8P
VCC
TBLR
TBLL
MGND
VDD
TBLSENS
DGND
DISCSENS
R703
33k
R704 10k
1.5
R705
1k
0
Q701
BA1A4M
INVERTER
E
(Page 56)

7-29. PRINTED WIRING BOARD – CD MOTOR SECTION –

- **See page 20 for Circuit Boards Location.**


MOTOR (SLIDE) BOARD
F
(Page 52)
CN801
C805
IC801
C801
JW805
R801
D801
D805
D804
JW803
JW801
M801 SLIDE MOTOR
M
JW804
C804
JW802
CN802
S801 OPEN/CLOSE DET
OPEN
CLOSE
1-658-578-
12
(13, 31)
S811
ROTARY ENCODER
BU. TRAY ADDRESS DET
MOTOR (TURN) BOARD
R707
R706
JW709
C705
IC701
D701
M701 TURN MOTOR
JW707
C701
JW708
C702
CN703
CN704
1-658-557-
12
(13, 31)
IC703
R702
JW701
SENSOR BOARD
IC702
R701
IC705
1-658-576-
12
(13, 31)
CONNECTOR BOARD
CN702
R703
R705
Q701
R704
CN701
1-658-575-
09
12
(13, 31)
E
(Page 52)

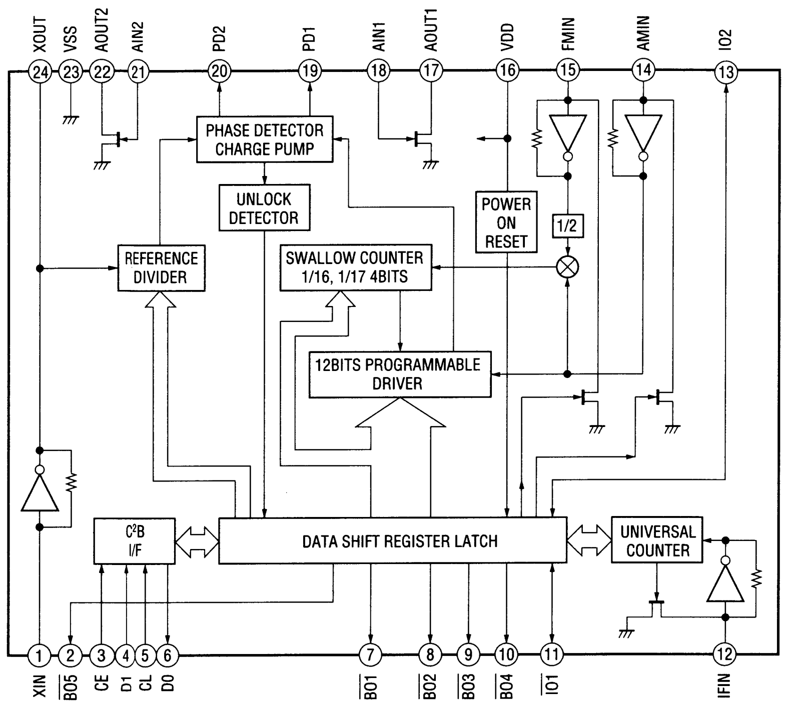
- **Indication of transistor**


B C E
These are omitted

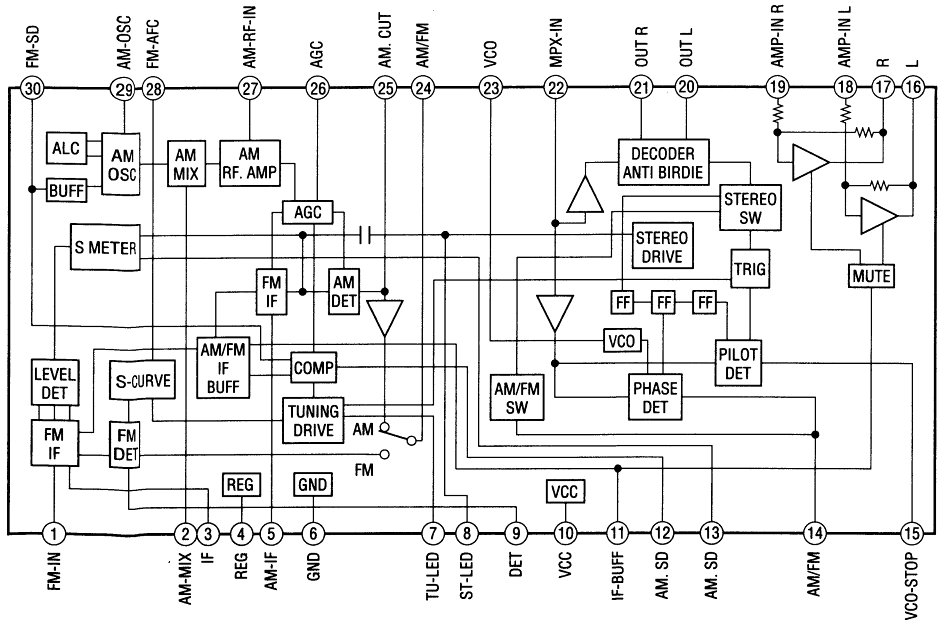
7-30. IC BLOCK DIAGRAMS

• Tuner section

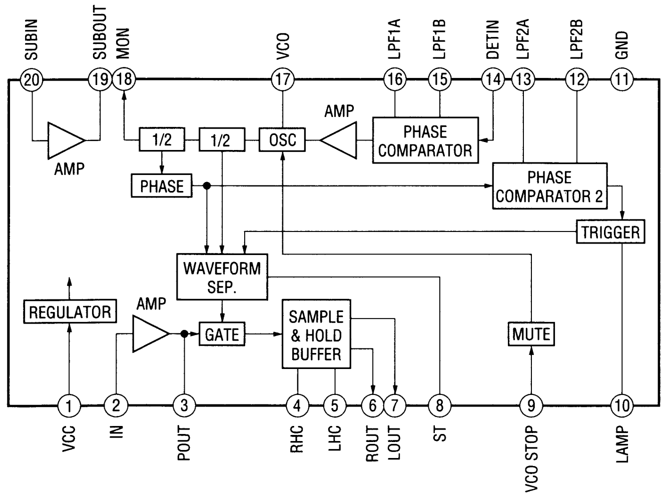
IC21 LC72130


XOUT
VSS
AOUT2
AIN2
PD2
PD1
AIN1
AOUT1
VDD
FMIN
AMIN
IO2
24
23
22
21
20
19
18
17
16
15
14
13
PHASE DETECTOR CHARGE PUMP
UNLOCK DETECTOR
REFERENCE DIVIDER
SWALLOW COUNTER 1/16, 1/17 4BITS
POWER ON RESET
1/2
12BITS PROGRAMMABLE DRIVER
C²B I/F
DATA SHIFT REGISTER LATCH
UNIVERSAL COUNTER
1
2
3
4
5
6
7
8
9
10
11
12
XIN
BO5
CE
DI
CL
DO
BO1
BO2
BO3
BO4
IO1
IFIN

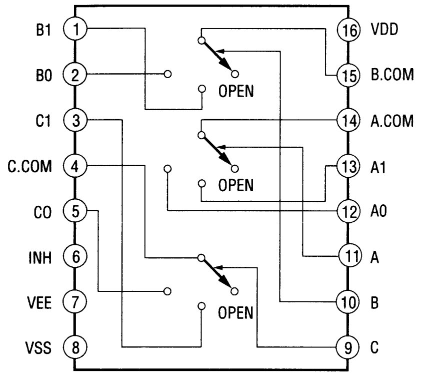
IC41 LA1838


FM-SD
AM-OSC
FM-AFC
AM-RF-IN
AGC
AM. CUT
AM/FM
VCO
MPX-IN
OUT R
OUT L
AMP-IN R
AMP-IN L
R
L
30
29
28
27
26
25
24
23
22
21
20
19
18
17
16
ALC
AM OSC
BUFF
AM MIX
AM RF. AMP
AGC
S METER
FM IF
AM DET
DECODER ANTI BIRDIE
STEREO SW
STEREO DRIVE
TRIG
MUTE
FF
FF
FF
VCO
PILOT DET
PHASE DET
AM/FM SW
AM/FM IF BUFF
COMP
TUNING DRIVE
AM
FM
LEVEL DET
S-CURVE
FM IF
FM DET
REG
GND
VCC
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
FM-IN
AM-MIX
IF
REG
AM-IF
GND
TU-LED
ST-LED
DET
VCC
IF-BUFF
AM. SD
AM. SD
AM/FM
VCO-STOP

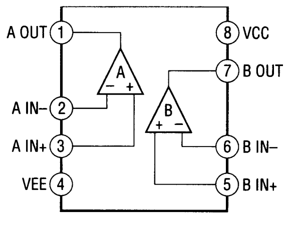
IC1701 IR3R42


SUBIN
SUBOUT
MON
VCO
LPF1A
LPF1B
DETIN
LPF2A
LPF2B
GND
20
19
18
17
16
15
14
13
12
11
AMP
1/2
1/2
OSC
AMP
PHASE COMPARATOR
PHASE
PHASE COMPARATOR 2
TRIGGER
WAVEFORM SEP.
REGULATOR
AMP
GATE
SAMPLE & HOLD BUFFER
MUTE
1
2
3
4
5
6
7
8
9
10
VCC
IN
POUT
RHC
LHC
ROUT
LOUT
ST
VCO STOP
LAMP

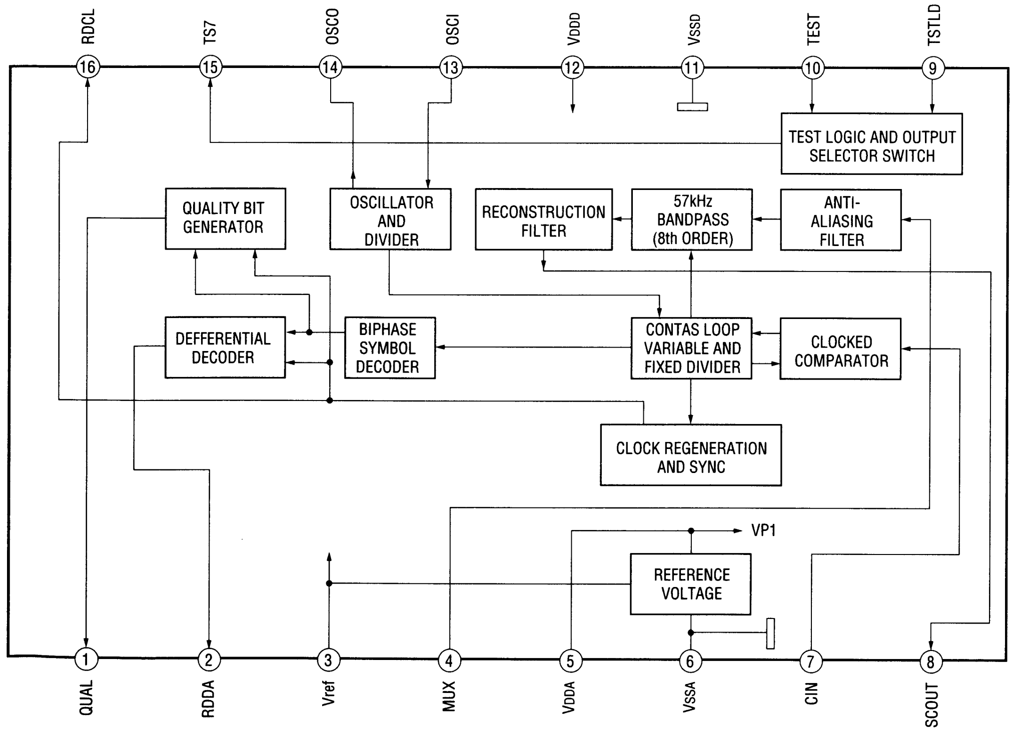
IC1702 MC14053BCP


B1
B0
C1
C.COM
CO
INH
VEE
VSS
1
2
3
4
5
6
7
8
16
15
14
13
12
11
10
9
VDD
B.COM
A.COM
A1
A0
A
B
C
OPEN
OPEN
OPEN

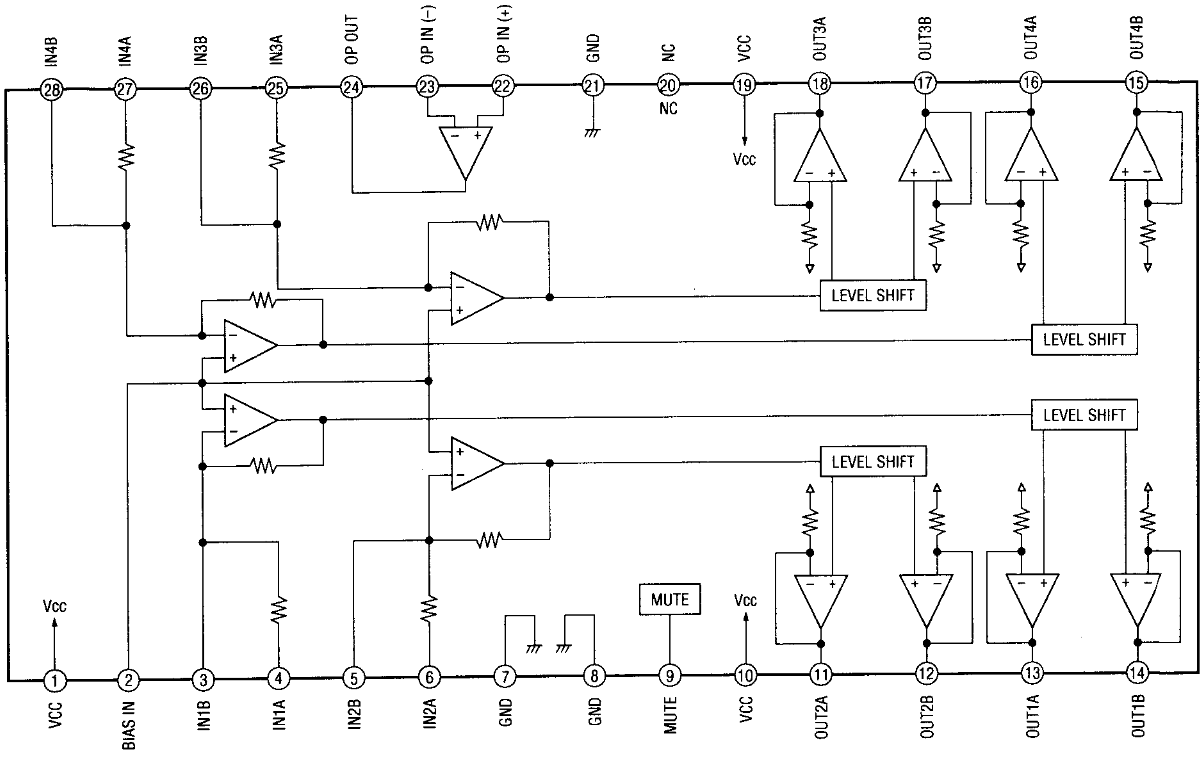
IC1751 NJM4558D


A OUT
A IN–
A IN+
VEE
1
2
3
4
8
7
6
5
VCC
B OUT
B IN–
B IN+
A
B

IC1752 BU1922

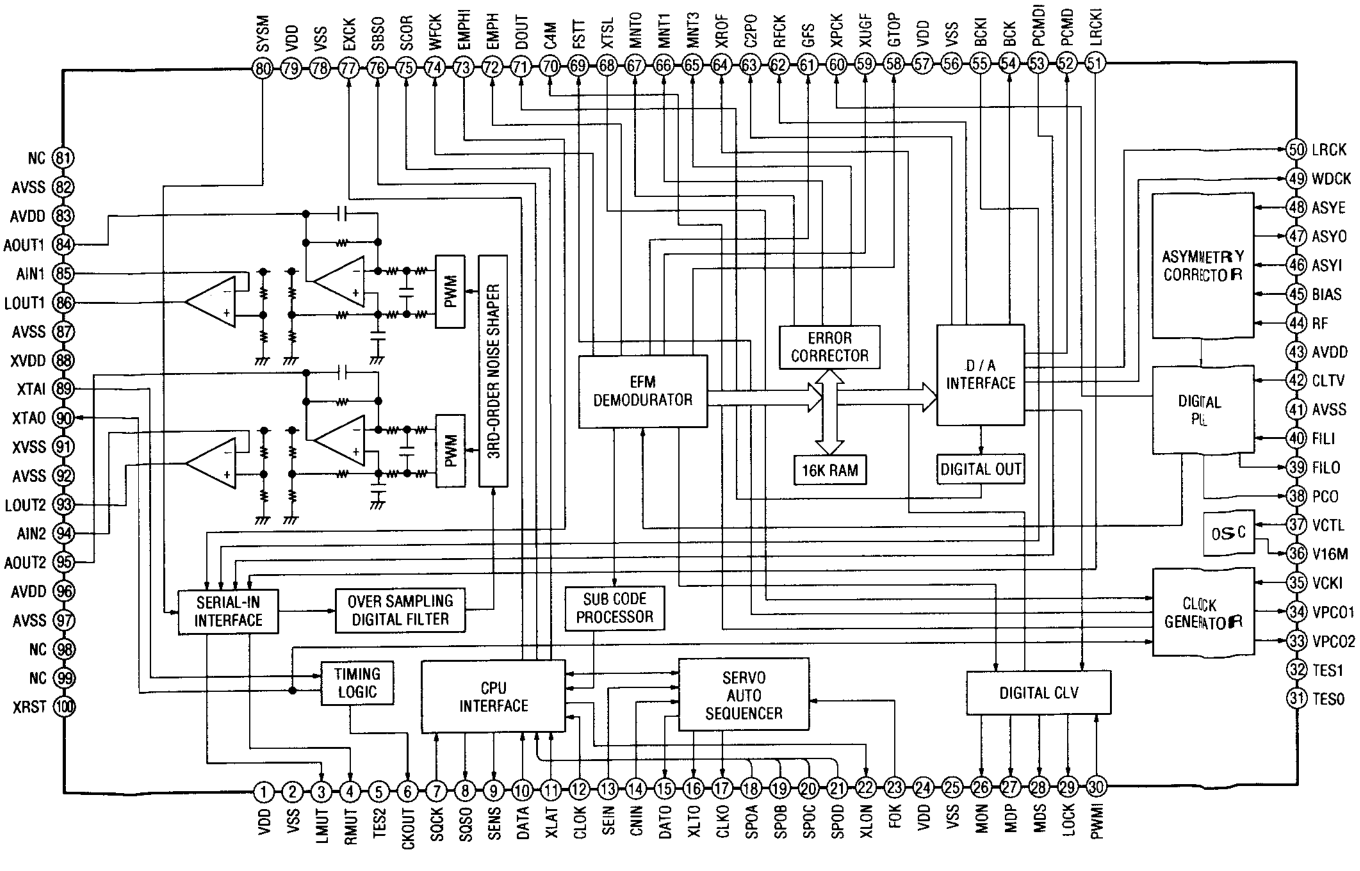

RDCL
TS7
OSCO
OSCI
VDDD
VSSD
TEST
TSTLD
16
15
14
13
12
11
10
9
TEST LOGIC AND OUTPUT SELECTOR SWITCH
QUALITY BIT GENERATOR
OSCILLATOR AND DIVIDER
RECONSTRUCTION FILTER
57kHz BANDPASS (8th ORDER)
ANTI-ALIASING FILTER
DEFFERENTIAL DECODER
BIPHASE SYMBOL DECODER
CONTAS LOOP VARIABLE AND FIXED DIVIDER
CLOCKED COMPARATOR
CLOCK REGENERATION AND SYNC
VP1
REFERENCE VOLTAGE
1
2
3
4
5
6
7
8
QUAL
RDDA
Vref
MUX
VDDA
VSSA
CIN
SCOUT

IC102 BA5941FP



IN4B 28
IN4A 27
IN3B 26
IN3A 25
OP OUT 24
OP IN (-) 23
OP IN (+) 22
GND 21
NC 20
NC
VCC 19
Vcc
OUT3A 18
OUT3B 17
OUT4A 16
OUT4B 15
LEVEL SHIFT
LEVEL SHIFT
LEVEL SHIFT
LEVEL SHIFT
MUTE
Vcc
Vcc
1 VCC
2 BIAS IN
3 IN1B
4 IN1A
5 IN2B
6 IN2A
7 GND
8 GND
9 MUTE
10 VCC
11 OUT2A
12 OUT2B
13 OUT1A
14 OUT1B

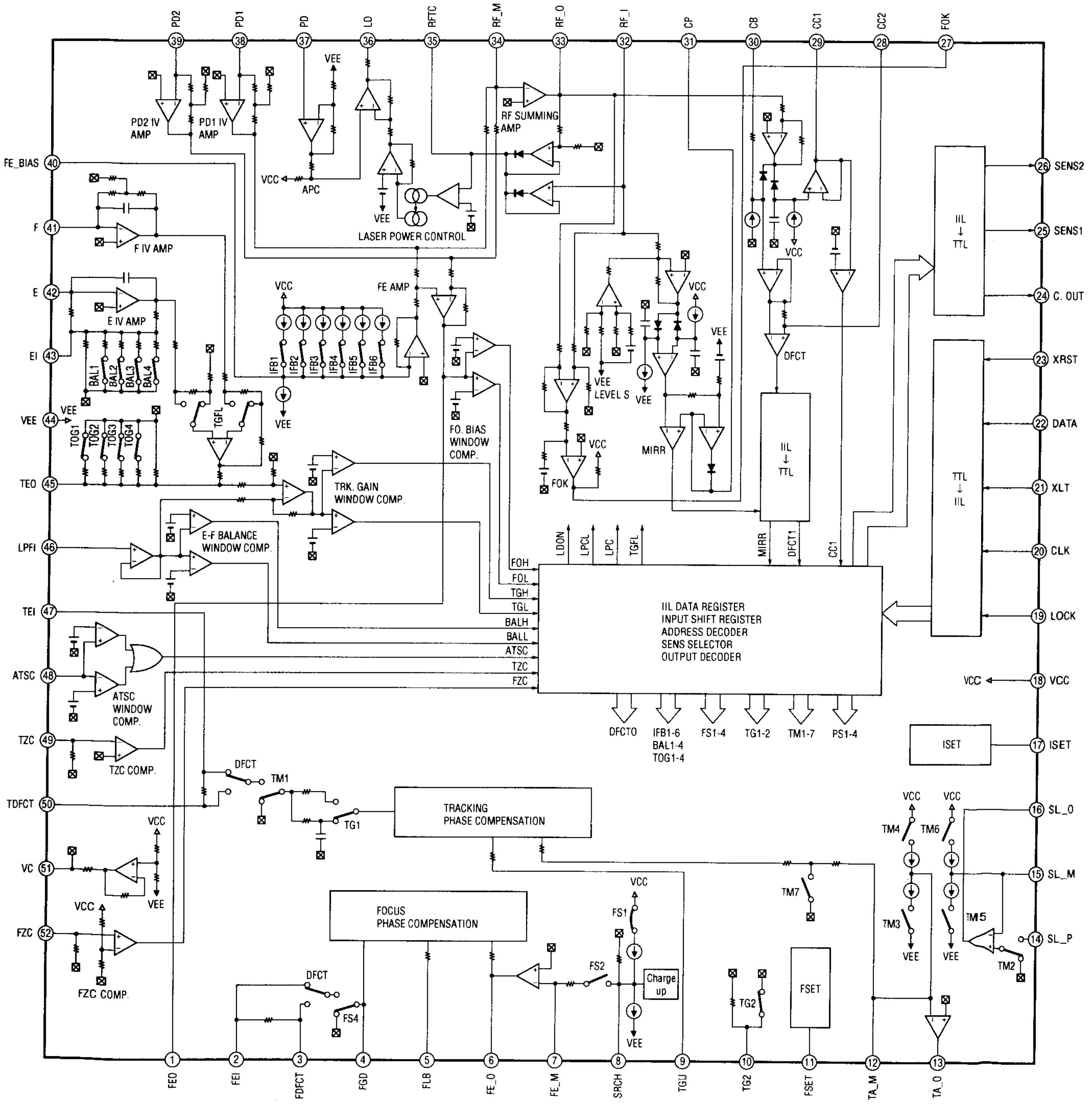
IC103 CXD2519Q



80 SYSM
79 VDD
78 VSS
77 EXCK
76 SBSO
75 SCOR
74 WFCK
73 EMPHI
72 EMPH
71 DOUT
70 C4M
69 FSTT
68 XTSL
67 MNT0
66 MNT1
65 MNT3
64 XROF
63 C2PO
62 RFCK
61 GFS
60 XPCK
59 XUGF
58 GTOP
57 VDD
56 VSS
55 BCKI
54 BCK
53 PCMDI
52 PCMD
51 LRCKI
NC 81
AVSS 82
AVDD 83
AOUT1 84
AIN1 85
LOUT1 86
AVSS 87
XVDD 88
XTAI 89
XTAO 90
XVSS 91
AVSS 92
LOUT2 93
AIN2 94
AOUT2 95
AVDD 96
AVSS 97
NC 98
NC 99
XRST 100
50 LRCK
49 WDCK
48 ASYE
47 ASYO
46 ASYI
45 BIAS
44 RF
43 AVDD
42 CLTV
41 AVSS
40 FILI
39 FILO
38 PCO
37 VCTL
36 V16M
35 VCKI
34 VPCO1
33 VPCO2
32 TES1
31 TES0
PWM
PWM
3RD-ORDER NOISE SHAPER
EFM DEMODURATOR
ERROR CORRECTOR
16K RAM
D / A INTERFACE
DIGITAL OUT
ASYMMETRY CORRECTOR
DIGITAL PLL
OSC
CLOCK GENERATOR
SERIAL-IN INTERFACE
OVER SAMPLING DIGITAL FILTER
SUB CODE PROCESSOR
TIMING LOGIC
CPU INTERFACE
SERVO AUTO SEQUENCER
DIGITAL CLV
1 VDD
2 VSS
3 LMUT
4 RMUT
5 TES2
6 CKOUT
7 SQCK
8 SQSO
9 SENS
10 DATA
11 XLAT
12 CLOK
13 SEIN
14 CNIN
15 DATO
16 XLTO
17 CLKO
18 SPOA
19 SPOB
20 SPOC
21 SPOD
22 XLON
23 FOK
24 VDD
25 VSS
26 MON
27 MDP
28 MDS
29 LOCK
30 PWMI

- **CD section**

IC101 CXA1992AR


PD2
PD1
PD
LD
RFTC
RF_M
RF_O
RF_I
CP
CB
CC1
CC2
FOK
PD2 IV AMP
PD1 IV AMP
VEE
VCC
APC
LASER POWER CONTROL
RF SUMMING AMP
FE_BIAS
F
F IV AMP
E
E IV AMP
EI
BAL1
BAL2
BAL3
BAL4
VEE
TOG1
TOG2
TOG3
TOG4
TGFL
TEO
LPFI
E-F BALANCE WINDOW COMP.
TRK. GAIN WINDOW COMP.
FE AMP
IFB1
IFB2
IFB3
IFB4
IFB5
IFB6
FO. BIAS WINDOW COMP.
LEVEL S
FOK
MIRR
DFCT
IIL ↓ TTL
TTL ↓ IIL
SENS2
SENS1
C. OUT
XRST
DATA
XLT
CLK
LOCK
VCC
ISET
SL_O
SL_M
SL_P
TEI
ATSC
ATSC WINDOW COMP.
TZC
TZC COMP.
TDFCT
VC
FZC
FZC COMP.
LDON
LPCL
LPC
TGFL
MIRR
DFCT1
CC1
FOH
FOL
TGH
TGL
BALH
BALL
ATSC
TZC
FZC
IIL DATA REGISTER
INPUT SHIFT REGISTER
ADDRESS DECODER
SENS SELECTOR
OUTPUT DECODER
DFCTO
IFB1-6
BAL1-4
TOG1-4
FS1-4
TG1-2
TM1-7
PS1-4
ISET
DFCT
TM1
TG1
TRACKING PHASE COMPENSATION
TM4
TM6
TM7
TM3
TM5
TM2
FOCUS PHASE COMPENSATION
FS1
FS2
FS4
Charge up
TG2
FSET
FEO
FEI
FDFCT
FGD
FLB
FE_O
FE_M
SRCH
TGU
TG2
FSET
TA_M
TA_O

7-31. IC PIN FUNCTIONS

• IC101 FOCUS/TRACKING/SLED SERVO RF AMP (CXA1992AR)

Pin No.	Pin Name	I/O	Function
1	FEO	O	Focus error amplifier output Connected internally to the window comparator input for bias adjustment
2	FEI	I	Focus error input
3	FDFCT	I	Capacitor connection pin for defect time constant
4	FGD	I	Ground this pin through a capacitor for cutting the focus servo high-frequency gain
5	FLB	I	External time constant setting pin for boosting the focus servo low-frequency
6	FE O	O	Focus drive output
7	FE M	I	Focus amplifier inverted input
8	SRCH	I	External time constant setting pin for generating focus search waveform
9	TGU	I	External time constant setting pin for switching tracking high-frequency gain
10	TG2	I	External time constant setting pin for switching tracking high-frequency gain
11	FSET	I	Peak frequency setting pin for focus and tracking phase compensation amplifier
12	TA M	I	Tracking amplifier inverted input
13	TA O	O	Tracking drive output
14	SL P	I	Sled amplifier non-inverted input
15	SL M	I	Sled amplifier inverted input
16	SL O	O	Sled drive output
17	ISET	I	Connect an external capacitance to set the current which determines the Focus search, Track jump, and Sled kick heights
18	Vcc	I	Positive power supply
19	LOCK	I	The sled overrun prevention circuit operates when this pin is Low (No pull-up resistance)
20	CLK	I	Serial data transfer clock input from CPU (No pull-up resistance)
21	XLT	I	Lach input from CPU (No pull-up resistance)
22	DATA	I	Serial data input from CPU (No pull-up resistance)
23	XRST	I	Reset input; resets at Low (No pull-up resistance)
24	C.OUT	O	Track number count signal output
25	SENS1	O	Outputs FZC, DFCT1, TZC, BALH, TGH, FOH, ATSC, and others according to the command from CPU
26	SENS2	O	Outputs DFCT2, MIRR, BALL, TGL, FOL,and others according to the command from CPU
27	FOK	O	Focus OK comparator output
28	CC2	I	Input for the defect bottom hold output with capacitance coupled
29	CC1	O	Defect bottom hold output Connected internally to the interruption comparator input
30	CB	I	Connection pin for defect bottom hold capacitor
31	CP	I	Connection pin for MIRR hold capacitor MIRR comparator non-inverted input
32	RF I	I	Input for the RF summing amplifier output with capacitance coupled
33	RF O	O	RF summing amplifier output Eye-pattern check point

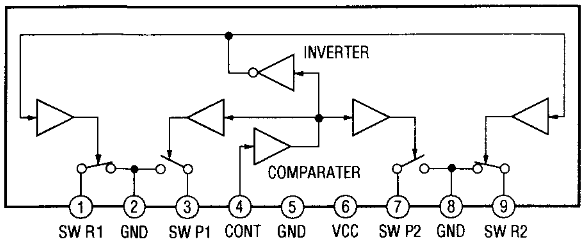
- Abbreviation

FZC : Focus zero-cross
DFCT : Defect
TZC : Tracking zero-cross
BALH : E-F Balance (High)
TGH : Tracking Gain (High)
FOH : Focus Bias (High)

ATSC : Anti Shock
MIRR : Mirror
BALL : E-F Balance (Low)
TGL : Tracking Gain (Low)
FOL : Focus Bias (Low)

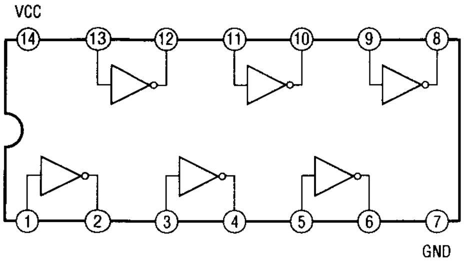
- **Deck section**

IC602 uPC1330HA


INVERTER
COMPARATER
1 SW R1
2 GND
3 SW P1
4 CONT
5 GND
6 VCC
7 SW P2
8 GND
9 SW R2

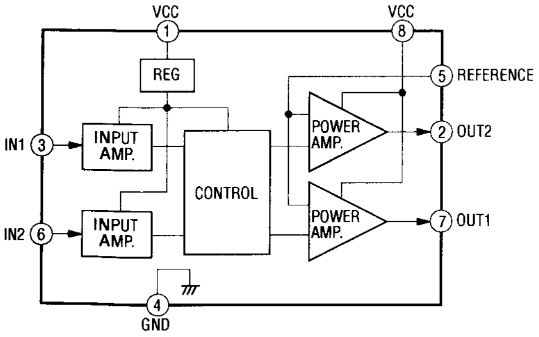
- **Main section**

IC392 MC74HCU04F

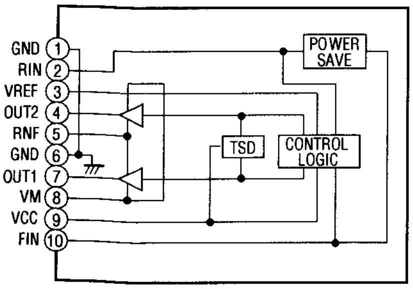

VCC
14
13
12
11
10
9
8
1
2
3
4
5
6
7
GND

- **CD motor section**

IC701 M54641L

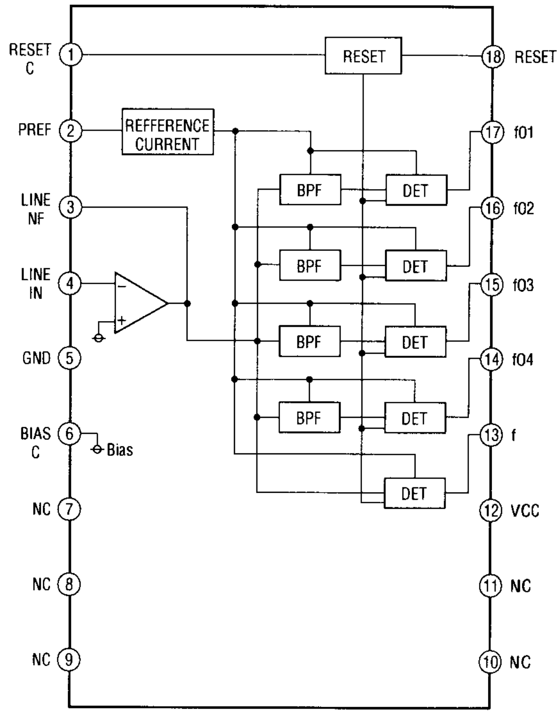

VCC 1
VCC 8
REG
5 REFERENCE
IN1 3
INPUT AMP.
CONTROL
POWER AMP.
2 OUT2
IN2 6
INPUT AMP.
POWER AMP.
7 OUT1
4 GND

IC801 BA6286N

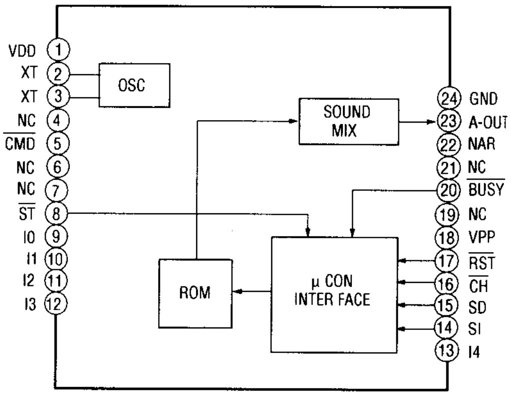

GND 1
RIN 2
VREF 3
OUT2 4
RNF 5
GND 6
OUT1 7
VM 8
VCC 9
FIN 10
POWER SAVE
TSD
CONTROL LOGIC

- **Display section**

IC603 BA3833FP

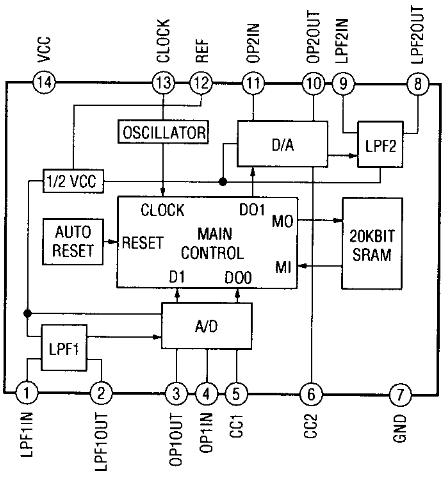

RESET C 1
PREF 2
LINE NF 3
LINE IN 4
GND 5
BIAS C 6
Bias
NC 7
NC 8
NC 9
RESET
REFFERENCE CURRENT
BPF
DET
18 RESET
17 f01
16 f02
15 f03
14 f04
13 f
12 VCC
11 NC
10 NC

IC851 MSM6653A-517GS-K


VDD 1
XT 2
XT 3
NC 4
CMD 5
NC 6
NC 7
ST 8
I0 9
I1 10
I2 11
I3 12
OSC
SOUND MIX
ROM
μ CON INTER FACE
24 GND
23 A-OUT
22 NAR
21 NC
20 BUSY
19 NC
18 VPP
17 RST
16 CH
15 SD
14 SI
13 I4

- **Mic section**

IC751 M65850FP


VCC 14
CLOCK 13
REF 12
OP2IN 11
OP2OUT 10
LPF2IN 9
LPF2OUT 8
OSCILLATOR
D/A
LPF2
1/2 VCC
CLOCK
DO1
MO
AUTO RESET
RESET
MAIN CONTROL
MI
D1
DO0
20KBIT SRAM
A/D
LPF1
1 LPF1IN
2 LPF1OUT
3 OP1OUT
4 OP1IN
5 CC1
6 CC2
7 GND

- **IC103 DIGITAL SIGNAL PROCESSOR (CXD2519Q)**

Pin No.	Pin Name	I/O	Function
1	VDD	–	+5V power supply
2	VSS	–	Ground
3	LMUT	O	Lch "L" detection flog (Not used)
4	RMUT	O	Rch "L" detection flog (Not used)
5	ACDT	O	Test output (Not used)
6	CKOUT	O	Master clock divider output (Not used)
7	SQCK	I	Clock input for SQSO read out
8	SQSO	O	Serial output for Sub-Q 80bit
9	SENS	O	SENS signal output to CPU
10	DATA	I	Serial data input, supplied from CPU
11	XLAT	I	Latch input, supplied from CPU
12	CLOK	I	Serial data transfer clock input, supplied from CPU
13	SEIN	I	SENS input from IC101
14	CNIN	I	Numbers of track jump counted signal input
15	DATO	O	Serial data output to IC101
16	XLTO	O	Serial data latch output to IC101
17	CLKO	O	Serial data transfer clock output to IC101
18	SPOA	I	Micro computer demodulation interface (Input A)
19	SPOB	I	Micro computer demodulation interface (Input B)
20	SPOC	I	Micro computer demodulation interface (Input C)
21	SPOD	I	Micro computer demodulation interface (Input D)
22	XLON	O	Micro computer demodulation interface (Output)
23	FOK	I	Focus OK input
24	VDD	–	+5V power supply
25	VSS	–	Ground
26	MON	O	Output to control ON/OFF of spindle motor (Not used)
27	MDP	O	Output to control spindle motor servo
28	MDS	O	Output to control spindle motor servo (Not used)
29	LOCK	O	GFS is sampled by 460Hz
30	PWMI	I	Input to control the outside spindle motor
31	TES0	I	Test pin (Connected to ground)
32	TES1	I	Test pin (Connected to ground)
33	VPCO2	O	Charge-pump output (Not used)
34	VPCO1	O	Charge-pump output (Not used)
35	VCKI	I	VCO2 oscillator input (Not used)
36	V16M	O	VCO2 oscillator output (Not used)
37	VCTL	I	VCO2 control voltage input
38	PCO	O	Charge-pump output to master PLL
39	FILO	O	Filter output to master PLL
40	FILI	I	Filter input for master PLL

- Abbreviation

GFS : Guarded Frame Sync
PLL : Phase Locked Loop

Pin No.	Pin Name	I/O	Function
34	RF M	I	RF summing amplifier inverted input The RF amplifier gain is determined by the resistance connected between this pin and RFO pin
35	RFTC	I	External time constant setting pin during RF level control
36	LD	O	APC amplifier output
37	PD	I	APC amplifier input
38	PD1	I	RF I-V amplifier inverted input Connect these pins to the photo diode A+C and B+D pins
39	PD2	I	
40	FE BIAS	I	Bias adjustment of focus error amplifier Leave this pin open for automatic adjustment
41	F	I	F I-V and E I-V amplifier inverted input Connect these pins to photo diodes F and E
42	E	I	
43	EI	–	I-V amplifier E gain adjustment (When not using automatic balance adjustment)
44	VEE	–	Negative power supply
45	TEO	O	Tracking error amplifier output E-F signal is output
46	LPFI	I	Comparator input for balance adjustment (Input from TEO through LPF)
47	TEI	I	Tracking error input
48	ATSC	I	Window comparator input for ATSC detection
49	TZC	I	Trackig zero-cross comparator input
50	TDFCT	I	Capacitor connection pin for defect time constant
51	VC	O	(VCC + VEE)/2 direct voltage output
52	FZC	I	Focus zero-cross comparator input

- Abbreviation

APC : Auto Power Control

Pin No.	Pin Name	I/O	Function
81	—	–	Not used
82	AVSS	–	Analog ground
83	AVDD	–	Analog power supply
84	AOUT1	O	Lch analog output
85	AIN1	I	Lch opamp input
86	LOUT1	O	Lch line output
87	AVSS	–	Analog ground
88	XVDD	–	Master clock power supply
89	XTAI	I	X'tal oscillator circuit input
90	XTAO	O	X'tal oscillator circuit output
91	XVSS	–	Master clock ground
92	AVSS	–	Analog ground
93	LOUT2	O	Rch line output
94	AIN2	I	Rch opamp input
95	AOUT2	O	Rch analog output
96	AVDD	–	Analog power supply
97	AVSS	–	Analog ground
98	—	–	Not used
99	—	–	Not used
100	XRST	I	System reset input

Pin No.	Pin Name	I/O	Function
41	AVSS	–	Analog ground
42	CLTV	I	Control voltage input for VCO
43	AVDD	–	Analog power supply
44	RF	I	EFM signal input
45	BIAS	I	Asymmetry circuit constant current input
46	ASYI	I	Asymmetry comparate voltage input
47	ASYO	O	EFM full swing output ("L" =Vss, "H" =VDD)
48	ASYE	I	Asymmetry circuit ON/OFF ("L"=OFF, "H"=ON)
49	WDCK	O	D/A interface Word clock f=2fs (Not used)
50	LRCK	O	D/A interface LR clock output f=Fs
51	LRCKI	I	D/A interface LR clock input f=Fs
52	PCMD	O	D/A interface Serial data output
53	PCMDI	I	D/A interface Serial data input
54	BCK	O	D/A interface Bit clock output
55	BCKI	I	D/A interface Bit clock input
56	VSS	–	Ground
57	VDD	–	+5V power supply
58	GTOP	O	Not used
59	XUGF	O	Not used
60	XPLCK	O	EFM decoder PLL clock output
61	GFS	O	"H" Playback EFM sync and interpolation protection timming much
62	RFCK	O	Read frame clock signal output
63	C2PO	O	Not used
64	XRAOF	O	Internal RAM overflow detection signal output (Not used)
65	MNT3	O	Not used
66	MNT1	O	Not used
67	MNT0	O	Not used
68	XTSL	I	Not used
69	FSTT	O	2/3 divider output (Not used)
70	C4M	O	4.2336MHz output(Not used)
71	DOUT	O	Digital audio signal output
72	EMPH	O	Playback disc output in emphasis mode
73	EMPHI	I	"H" =Input when de-emphasis ON
74	WFCK	O	Write frame clock signal output
75	SCOR	O	Sub-code sync output
76	SBSO	O	Sub-P through Sub-W serial output
77	EXCK	I	Clock input for SBSO read-out
78	VSS	–	Ground
79	VDD	–	+5V power supply
80	SYSM	I	System mute input

- Abbreviation

EFM : Eight to Fourteen Modulation

- **IC501 MASTER CONTROL (uPD780018AYGF-011-3BA)**

Pin No.	Pin Name	I/O	Function
1	LINE-MUTE	O	Line mute signal output
2	DBFB-H/L	O	DBFB H/L select signal output
3	M62442-LAT	O	Latch signal output for IC111 (M62442FP)
4	KCON-LAT	O	Not used
5	POWER	O	Power ON/OFF signal output
6	F-RELAY	O	Front speaker relay control output (Not used)
7	R-RELAY	O	Rear speaker relay control output
8	PL-RELAY	O	Not used
9	VSS	–	Ground
10	X2	O	X'tal (5MHz)
11	X1	I	
12	VDD	–	Power supply (+5V)
13	XT2	O	X'tal (32.768 KHz)
14	XT1	I	
15	RESET	I	Reset signal input
16	(AC-CUT)	I	Back up signal input
17	CAPM-CNT1P	I	Capstan motor control 1 (+) signal output
18	SCOR	O	Subcode data request signal output
19	SOFT-TEST	O	Software test port
20	—	–	Not used
21	RDS-INT	I	RDS data interrupt input
22	RDS-DATA	I	RDS data interrupt input
23	AVDD	–	Power supply (+5V)
24	AVREF	I	Analog reference voltage input.
25	ADJ	I	CD adjust point port Normal "H"
26	A-SHUT	I	A Deck reel pulse detector
27	B-SHUT	I	B Deck reel pulse detector
28	B-HALF	I	Half detector signal input
29	CLK-CHECK	I	Connected to ground
30	SPEC-IN	I	Version select signal input
31	AMS-IN	I	Connected to ground
32	DEMO-CHANGE	I	DEMO H/L select signal input (Connected to ground)
33	AVSS	–	Ground
34	SQ-DATA-IN	I	Subcode Q data clock input
35	—	–	Not used
36	SQ-CLK	I	Sub code Q data clock input
37	SUR-ON/OFF	O	Not used
38	FB CONT-A	I	Not used
39	FB CONT-B	I	Connected to ground
40	VSS	–	Ground
41	PL-VOL	O	Latch signal output to erectrial volume (Not used)
42	PL-LAT	O	Latch signal input to pro-logic (Not used)
43	COM-DIN	I	Connected to ground
44	COM-DOUT	O	Common serial data output (Not used)

- Abbreviation

APC : Auto Power Control

Pin No.	Pin Name	I/O	Function
45	COM-CLK	O	Common serial clock output
46	CD-POWER	O	CD power on signal output
47	CD-DATA	O	CD data output
48	CD-CLK	O	CD clock output
49	PL-CLK	O	Clock signal output to pro-logic (Not used)
50	PL-DATA	I	Data signal output to pro-logic (Not used)
51	M62442-CLK	O	Clock signal output for IC111 (M62442FP)
52	M62442-DATA	O	Data signal output for IC111 (M62442FP)
53	LEVEL-CONT-A	O	Not used
54	LEVEL-CONT-B	O	Not used
55	IIC-DATA	O	Data output for IC601
56	IIC-CLK	O	Clock output for IC601
57	XRST	O	CD reset signal output
58	XLT	O	CD latch signal output
59	FCS-SW	O	Not used
60	TBL-L	O	Table motor control output
61	TBL-R	O	
62	—	O	Not used
63	LOAD-OUT	O	Loading motor control signal output
64	LOAD-IN	O	
65	ST-CLK	O	Tuner clock output
66	ST-DIN	I	Tuner data input
67	ST-DOUT	O	Tuner data output
68	ST-CE	O	Tuner chip enable output
69	TUNED	I	Tuned detection for tuner
70	STEREO	I	Stereo detection for tuner
71	VSS	-	Ground
72	ST-MUTE	O	Tuner mute signal output
73	SENS2	I	BD Condition signal input
74	SENS	I	
75	DISC-SENS	I	Slit sensor of disc table input
76	T-SENS	I	CD table detection signal input
77	CAPM-CNT2P	O	Capstan motor control 2 (+) signal output
78	ENC 3	I	Disc tray adrress detect encoder input
79	ENC 2	I	
80	ENC 1	I	
81	OUT-OPEN	O	Loading out detection signal output
82	CAP-M-H/L	O	Capstan motor H/N speed select signal output
83	B-TRG	O	Trigger motor control output
84	A-TRG	O	Trigger motor control output
85	CAPM-CONT1M	O	Capstan motor control 1 (–) signal output
86	CAPM-CONT2M	O	Capstan motor control 2 (–) signal output
87	TC-MUTE	O	TC mute ON/OFF selection output

• IC601 DISPLAY CONTROL (TMP87CM74AF)

Pin No.	Pin Name	I/O	Function
1 to 6	LED3 to LED8	O	LED driver output
7	VSS	–	Ground
8	X OUT	O	X'tall (8MHz)
9	X IN	I	
10	RESET	I	Reset signal input from main controller
11	LED9	O	LED driver output
12	LED10	O	
13	TEST	I	Connected ground
14 to 18	LED11 to LED15	O	LED driver output
19	VOL A	I	Rotary encoder (S602) pulse input
20	VOL B	I	
21	JOG A	I	Rotaly encoder (S601) pulse input
22	JOG B	I	
23	SCL	O	Serial clock input from master controller
24	SDA	O	Serial data input from master controller
25	L. SEL	O	LED select signal output
26 to 29	KEY 0 to KEY 3	I	Key input
30	MODEL	I	Version select signal input
31	(LED 16 OPEN)	–	LED driver output (Not used)
32	L + R	I	Spectrum analyzer (high frequency) input
33	SIRCS	I	Remote commander signal input
34 to 37	SPEANA 1 to SPEANA 4	I	Spectrum analyzer input
38	VASS	–	Ground
39	VAREF	I	Analog reference voltage input
40	VDD	–	Power supply (+5V)
41 to 53	GR 1 to GR13	O	FL gride signal output
54 to 77	SEG 1 to SEG 24	O	FL segment signal output
78	VKK	–	Power supply (–25V) for FL segment signal output
79	LED 1	O	LED driver output
80	LED 2	O	

- Abbreviation

FL : Fluorescent indicator tube

Pin No.	Pin Name	I/O	Function
88	R/P-PASS	O	REC/PB/PASS selection output
89	NR-ON/OFF	O	NR ON/OFF signal output
90	REC-MUTE	O	REC mute ON/OFF selection output
91	CLK-OUT	O	Clock out signal check
92	BIAS	O	Bias ON/OFF signal output
93	EQ-H/N	O	Equalizer H/N select output
94	PB-A/B	O	PB Deck A/Deck B select output
95	A-PLAY-SW	I	Deck A play detect
96	B-PLAY-SW	I	Deck B play detect
97	TC-RELAY	O	REC/PB head selection output for IC602
98	A-HALF	I	Deck A cassette detect
99	ALC-ON/OFF	O	ALC ON/OFF output signal
100	STK-MUTE	O	Power amp ON/OFF signal output

• IC801 PANEL CONTROL (TMP87CH48DF)

Pin No.	Pin Name	I/O	Function
1	VSS	–	Ground
2	X OUT	O	X'tall (8MHz)
3	X IN	I	
4	RESET	I	Reset signal input
5	MUTE	I	Mute ON/OFF selection input
6	MODE_0	I	Connected to ground
7	TEST	–	
8	MODE_1	I	
9	YB_CLK	O	
10	NAR/YB_RDY	I	Connected to VDD
11	MSM6654/BSY	I	Busy signal input for IC851 (MSM6653A)
12	MSM6654/RST	O	Reset signal output for IC851 (MSM6653A)
13	MSM6654/CH	O	Channel signal output for IC851 (MSM6653A)
14	MSM6654/DATA	O	Data signal output for IC851 (MSM6653A)
15	MSM6654/CLK	O	Clock signal output for IC851 (MSM6653A)
16	MSM6654/LAT	O	Latch signal output for IC851 (MSM6653A)
17	YB_D0	I	Connected to ground
18	IC2 CLK	I	Serial clock input from master controller
19	IC2 DATA	I	Serial data input from master controller
20	YB_D3	I	Connected to ground
21	UART RX	I	
22	UART TX	O	
23 to 26	NC	O	Connected to ground
27	JOG_A	I	Rotary encoder (S601) pulse input
28	JOG_B	I	
29	SIRCS	I	Remote commander signal input
30	VASS	–	Ground
31	VAREF	I	Analog reference voltage input
32	DVDD	–	Power supply (+5V)
33	BPF/LOW	I	Spectrum analyzer input
34	BPF/LOW-MID	I	Connected to ground
35	BPF/HIGH-MID	I	Connected to ground
36	BPF/HIGH	I	Spectrum analyzer input
37	L + R	I	Spectrum analyzer (high frequency) input
38	KEY/0	I	Key input
39	KEY/1	I	
40	KEY/2	I	Connected to VDD
41 to 56	NC	O	Not used
57 to 60	GND	–	Ground
61	BPM_LED_B	O	LED Drive output
62	BPM_LED_A	O	
63	BOMBER_LED	O	
64	ON/OFF_LED	O	

SECTION 8
EXPLODED VIEWS

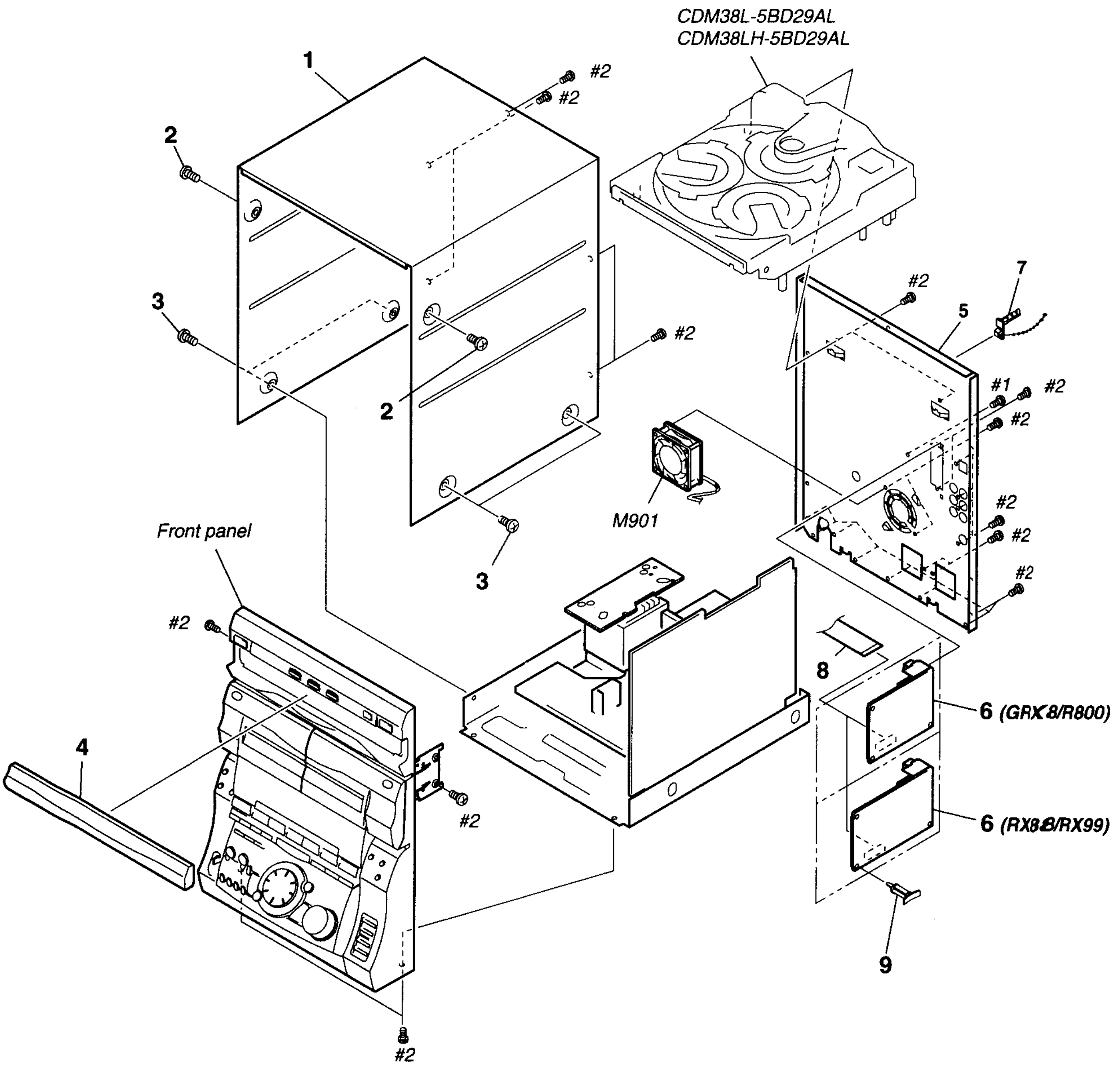
NOTE:
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.

- Abbreviation

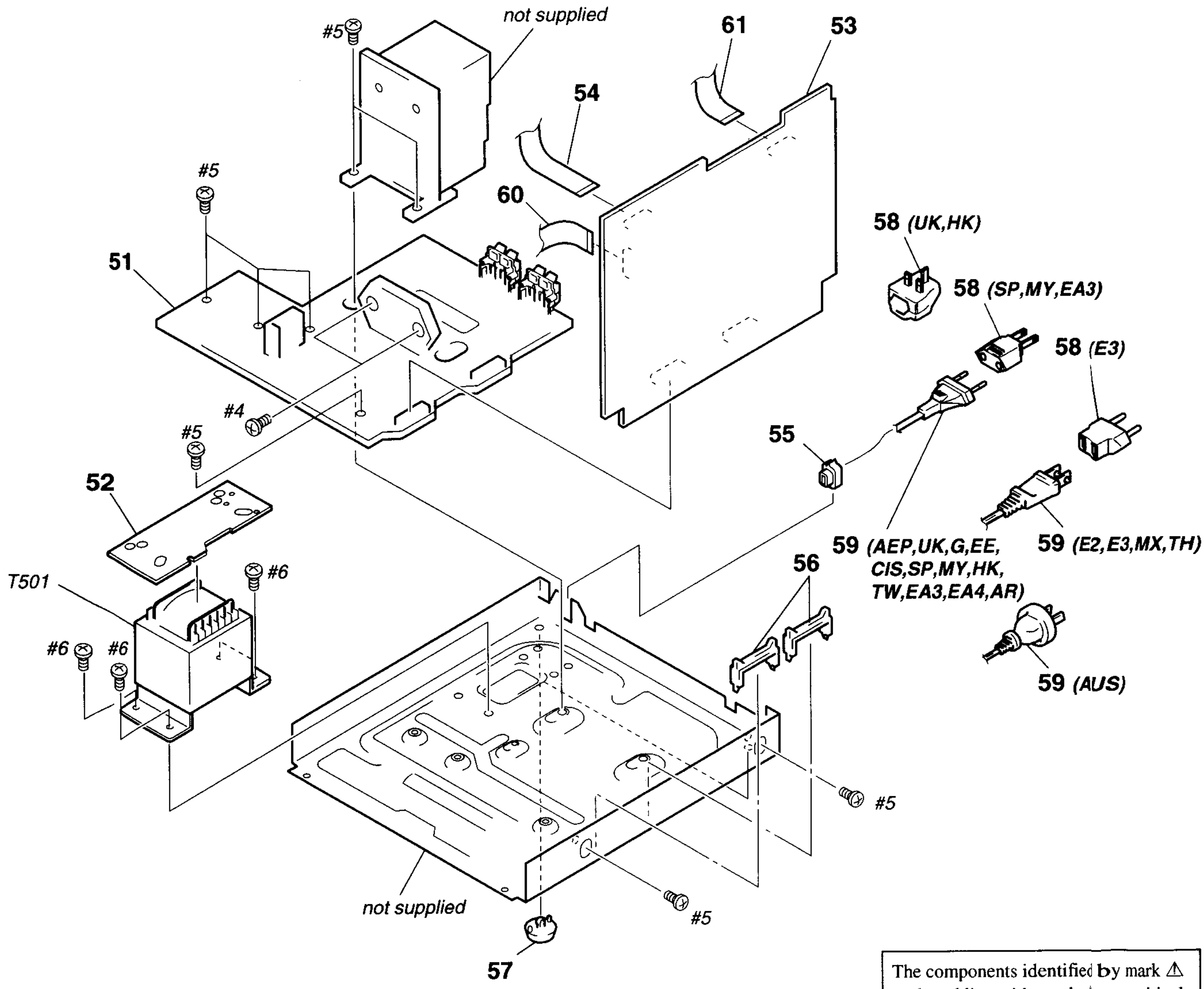
G	: German model
EE	: East European model
EA3	: Saudi Arabia model
EA4	: Israel model
MX	: Mexican model
HK	: Hong Kong model
SP	: Singapore model
MY	: Malaysia model
TW	: Taiwan model
AUS	: Australian model
AR	: Argentine model
TH	: Thailand model
E2	: Without SW tuner E model
E3	: With SW tuner E model

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

8-1. CASE SECTION


CDM38L-5BD29AL
CDM38LH-5BD29AL
1
#2
#2
2
3
#2
7
#2
5
#1
#2
#2
2
#2
#2
M901
#2
Front panel
3
#2
8
6 (GRX8/R800)
4
#2
6 (RX88/RX99)
9
#2

8-2. CHASSIS SECTION



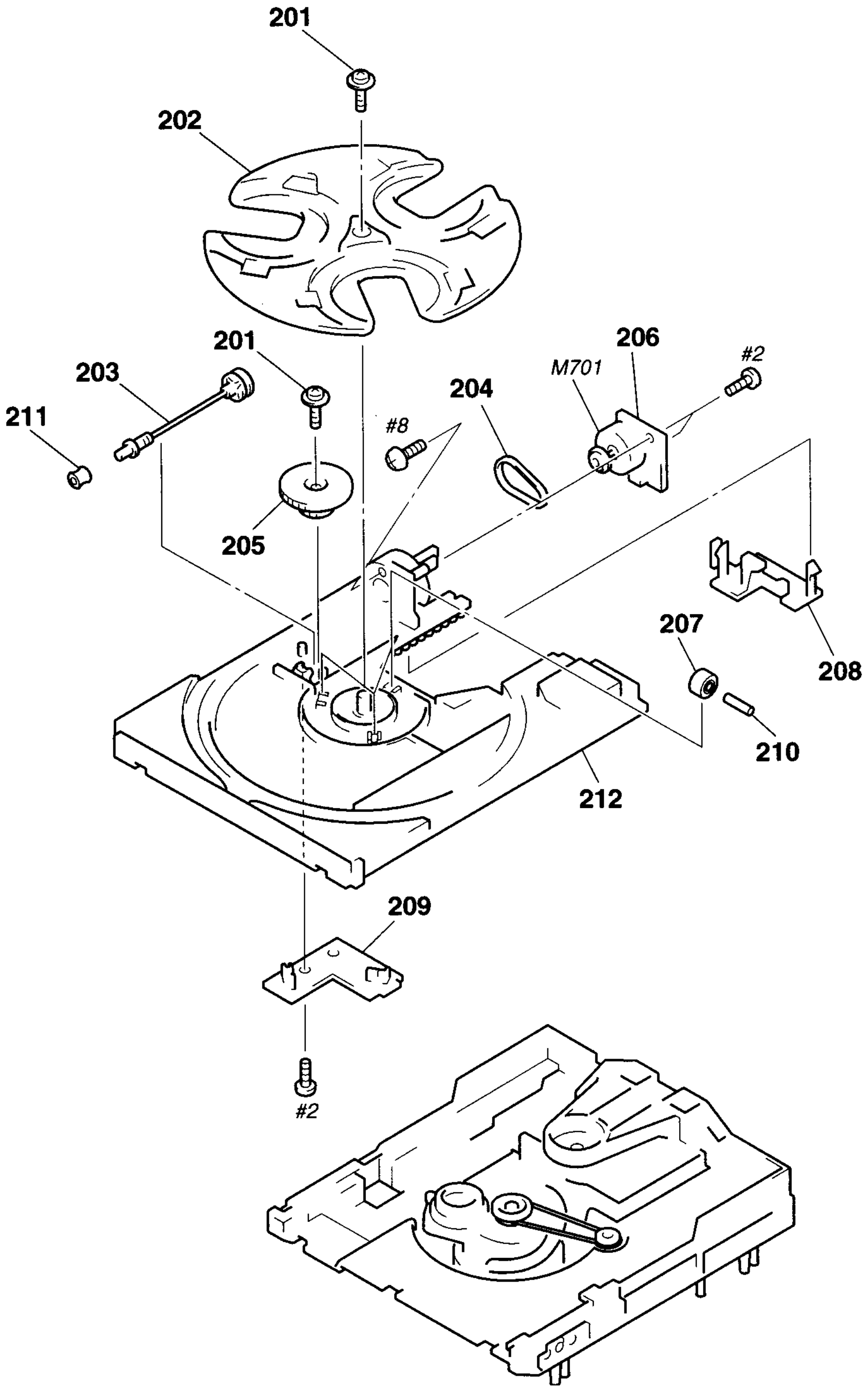
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
* 51	A-4407-260-A	POWER BOARD, COMPLETE (GRX8/R800)	
* 51	A-4407-300-A	POWER BOARD, COMPLETE (RX88)	
* 51	A-4407-722-A	POWER BOARD, COMPLETE (RX99)	
* 52	1-668-274-11	TRANSFORMER BOARD	
* 53	A-4405-131-A	MAIN BOARD, COMPLETE (GRX8:E3,SP,MY,HK,TW,EA3)	
* 53	A-4405-146-A	MAIN BOARD, COMPLETE (RX88/RX99:AEP,UK,G)	
* 53	A-4407-252-A	MAIN BOARD, COMPLETE (GRX8:E2,MX/R800)	
* 53	A-4407-322-A	MAIN BOARD, COMPLETE (RX99:EE,CIS)	
* 53	A-4407-723-A	MAIN BOARD, COMPLETE (GRX8:AUS)	
* 53	A-4407-749-A	MAIN BOARD, COMPLETE (GRX8:EA4,TH)	
54	1-773-041-11	WIRE (FLAT TYPE) (17 CORE)	
55	3-703-244-00	BUSHING (FBS001), CORD (AEP,UK,G,EE,CIS,SP,MY,HK,TW,EA3,EA4,AUS,AR)	
55	3-703-571-11	BUSHING (S) (4516), CORD (E2,E3,MX,TH)	

Ref. No.	Part No.	Description	Remark
* 56	4-988-533-01	HOLDER, PWB	
57	4-965-822-01	FOOT	
⚠58	1-569-007-11	ADAPTOR, CONVERSION 2P (E3)	
⚠58	1-569-008-11	ADAPTOR, CONVERSION 2P (SP,MY,EA3)	
⚠58	1-770-019-11	ADAPTOR, CONVERSION PLUG 3P (UK,HK)	
⚠59	1-558-943-41	CORD, POWER (E2,E3,MX,)	
⚠59	1-575-651-21	CORD, POWER (AEP,UK,G,EE,CIS,SP,MY,HK,TW,EA3,EA4,AR)	
⚠59	1-696-845-31	CORD, POWER (AUS)	
⚠59	1-751-326-21	CORD, POWER (TH)	
60	1-773-011-11	WIRE (FLAT TYPE)(15 CORE)(170mm)	
61	1-773-112-11	WIRE (FLAT TYPE)(19 CORE)(140mm)	
⚠T501	1-431-708-11	TRANSFORMER, POWER (AEP,UK,G,EE,CIS,TH)	
⚠T501	1-431-709-11	TRANSFORMER, POWER (E2,E3,SP,MY,MX,HK,EA3,EA4,TW,AUS,AR)	

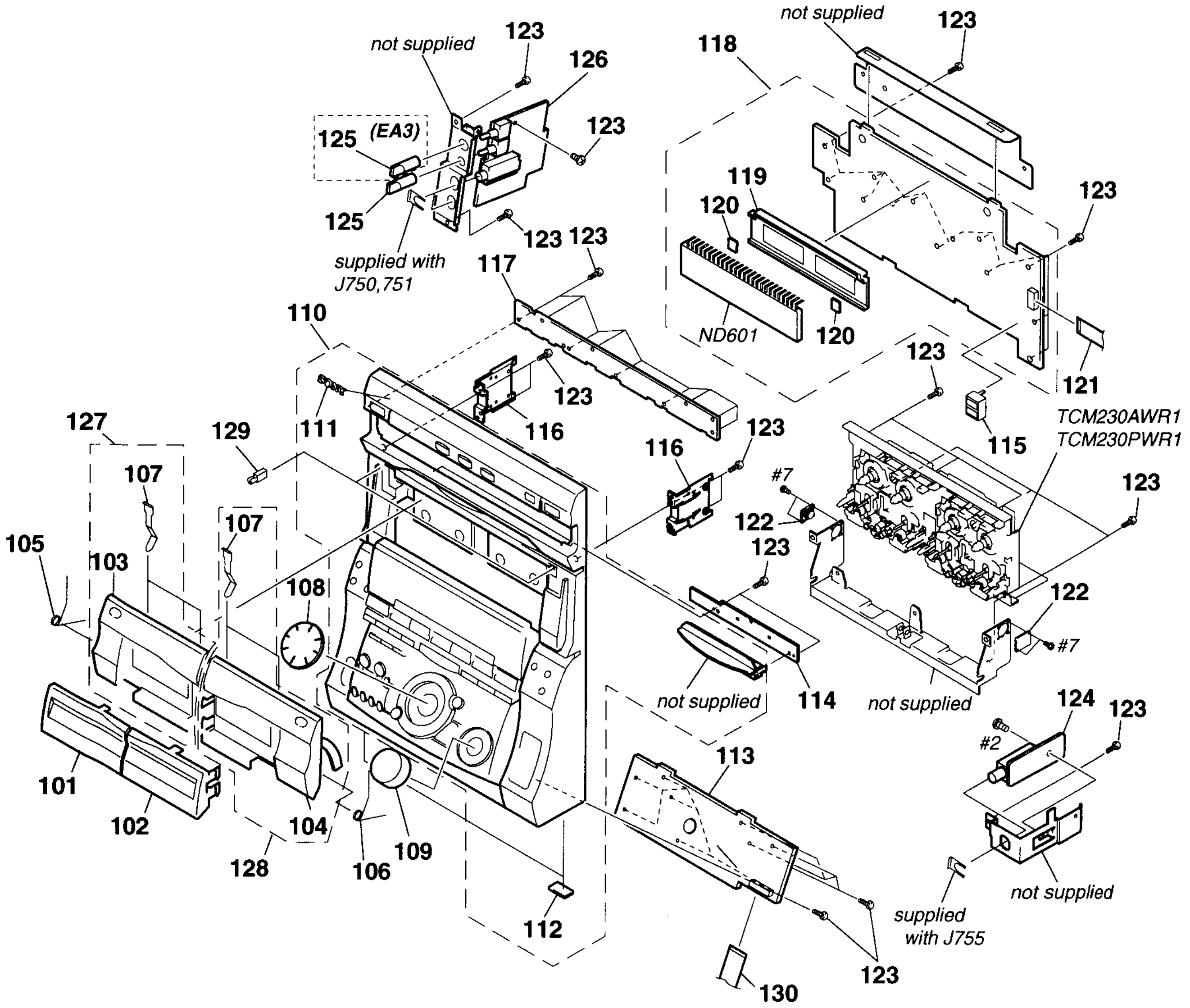
Ref. No.	Part No.	Description	Remark
1	4-996-816-01	CASE	
2	3-363-099-71	SCREW (CASE 3 TP2)	
3	3-363-099-11	SCREW (CASE 3 TP2)	
4	4-996-784-11	PANEL, LOADING (RX88)	
4	4-996-784-21	PANEL, LOADING (GRX8)	
4	4-996-784-71	PANEL, LOADING (RX99)	
4	4-996-784-91	PANEL, LOADING (R800)	
* 5	4-996-817-01	PANEL, BACK (MALAYSIA PRODUCT)(RX99:AEP,UK,G)	
* 5	4-996-817-11	PANEL, BACK (MALAYSIA PRODUCT)(RX99:EE,CIS)	
* 5	4-996-817-21	PANEL, BACK (INDONESIA PRODUCT)(RX99:AEP,UK,G)	
* 5	4-996-817-31	PANEL, BACK (INDONESIA PRODUCT)(RX99:EE,CIS)	
* 5	4-996-817-41	PANEL, BACK (MALAYSIA PRODUCT)(RX88)	
* 5	4-996-817-51	PANEL, BACK (INDONESIA PRODCT)(RX88)	
* 5	4-996-817-61	PANEL, BACK (GRX8:EA4,TH)	
* 5	4-996-818-01	PANEL, BACK (INDONESIA PRODUCT)(GRX8:E2,E3)	
* 5	4-996-818-11	PANEL, BACK (INDONESIA PRODUCT)(GRX8:SP,MY)	
* 5	4-996-818-21	PANEL, BACK (INDONESIA PRODUCT)(GRX8:TW)	
* 5	4-996-818-31	PANEL, BACK (INDONESIA PRODUCT)(GRX8:HK)	
* 5	4-996-818-41	PANEL, BACK (INDONESIA PRODUCT)(GRX8:AUS)	
* 5	4-996-818-51	PANEL, BACK (INDONESIA PRODUCT)(GRX8:MX)	
* 5	4-996-818-81	PANEL, BACK (INDONESIA PRODUCT)(R800:MX)	
* 5	4-996-818-91	PANEL, BACK (INDONESIA PRODUCT)(R800:AR)	
* 5	4-997-720-01	PANEL, BACK (MALAYSIA PRODUCT)(GRX8:E2,E3)	
* 5	4-997-720-11	PANEL, BACK (MALAYSIA PRODUCT)(GRX8:SP,MY)	
* 5	4-997-720-21	PANEL, BACK (MALAYSIA PRODUCT)(GRX8:TW)	
* 5	4-997-720-31	PANEL, BACK (MALAYSIA PRODUCT)(GRX8:HK)	
* 5	4-997-720-41	PANEL, BACK (MALAYSIA PRODUCT)(GRX8:AUS)	
* 5	4-997-720-51	PANEL, BACK (MALAYSIA PRODUCT)(GRX8:MX)	
* 5	4-997-720-61	PANEL, BACK (GRX8:EA3)	
* 5	4-997-720-81	PANEL, BACK (MALAYSIA PRODUCT)(R800:MX)	
* 5	4-997-720-91	PANEL, BACK (MALAYSIA PRODUCT)(R800:AR)	
* 6	A-4303-588-A	TCB BOARD, COMPLETE (EE,CIS)	
* 6	A-4303-590-A	TCB BOARD, COMPLETE (AEP,UK,G)	
6	1-233-545-11	ENCAPSULATED COMPONENT (E2,MX,EA4,TH,AUS,AR)	
6	1-233-546-11	ENCAPSULATED COMPONENT (E3,SP,MY,HK,TW,EA3)	
7	4-956-370-12	BAND, PLUG FIXED (UK,HK,AUS)	
8	1-773-009-11	WIRE (FLAT TYPE)(15 CORE)(150mm) (AEP,UK,G,EE,CIS,E3,SP,MY,HK,TW,EA3)	
8	1-769-977-11	WIRE (FLAT TYPE)(13 CORE)(150mm) (E2,MX,EA4,TH,AUS,AR)	
9	4-924-098-91	HOLDER, PC BOARD (RX88,RX99)	
M901	1-698-792-11	FAN, DC (RX88/RX99)	
M901	1-763-048-21	FAN, D.C. (GRX8/R800)	

8-4. CD MECHANISM DECK SECTION-1 (CDM38L-5BD29AL CDM38LH-5BD29AL)


201
202
201
203
211
205
206
M701
#2
204
#8
207
208
210
212
209
#2

Ref. No.	Part No.	Description	Remark
201	4-981-789-01	BRACKET (2), YOKE	
202	4-977-945-01	TRAY (TURN)	
203	X-4946-665-1	SHAFT ASSY, WORM	
204	4-977-943-01	BELT (TURN) (1.2)	
205	4-977-956-01	WHEEL, WORM	
* 206	1-658-577-11	MOTOR (TURN) BOARD	
207	4-988-162-01	ROLLER	
208	4-977-941-01	BEARING (WORM)	
* 209	1-658-576-11	SENSOR BOARD	
210	4-934-376-01	SHAFT (ROLLER)	
211	4-981-187-01	COLLAR (WORM)	
212	4-977-944-01	TRAY (SLIDE)	
M701	A-4672-004-A	MOTOR ASSY (TURN)	

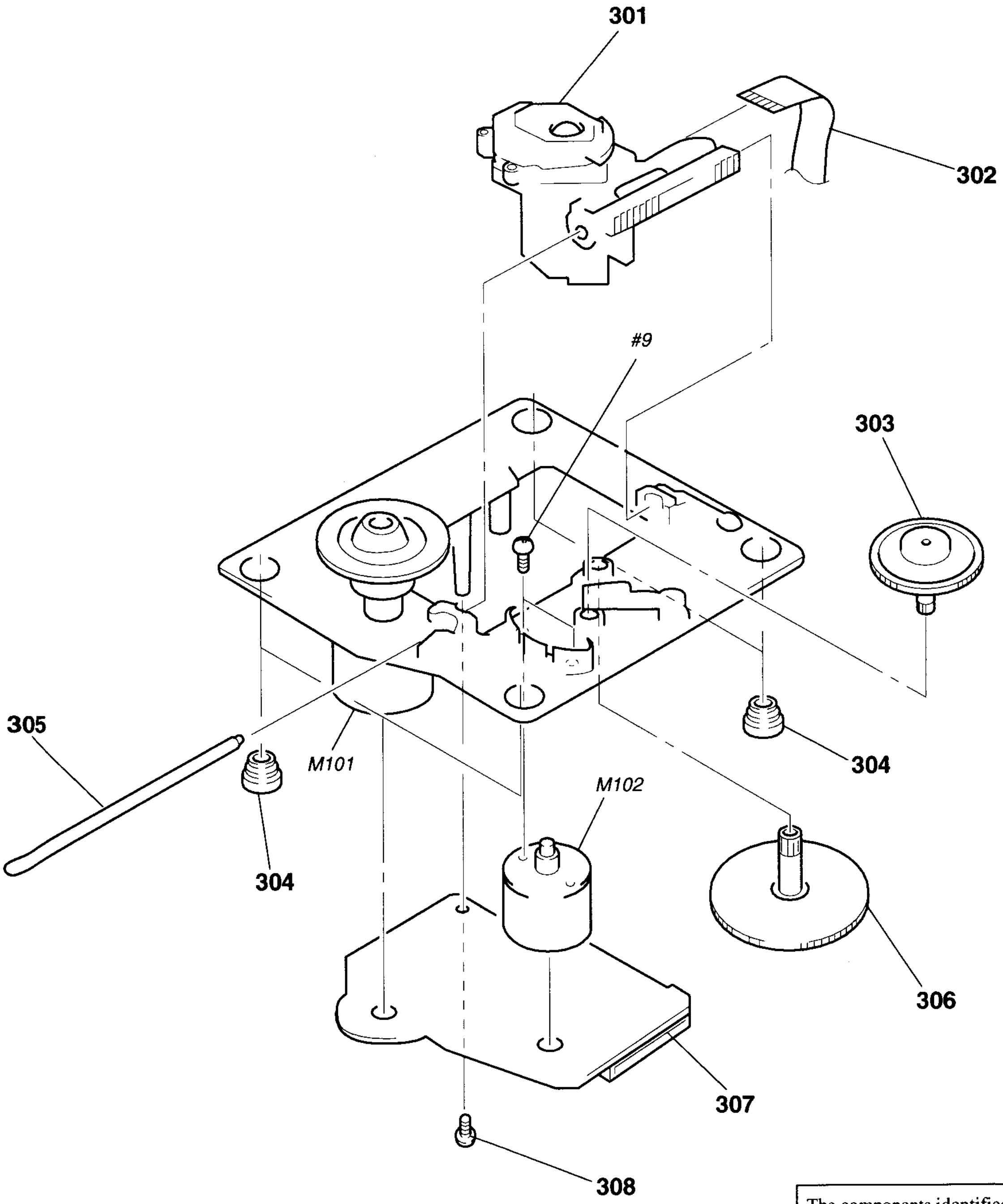
8-3. FRONT PANEL SECTION


not supplied
123
126
123
125 (EA3)
125
123
123
supplied with J750,751
117
110
not supplied
123
118
119
120
ND601
120
123
121
TCM230AWR1
TCM230PWR1
127
107
129
111
123
116
116
123
115
123
105
103
107
#7
122
123
108
122
#7
not supplied
114
not supplied
124
123
#2
101
102
104
128
106
109
113
112
supplied with J755
not supplied
123
130

Ref. No.	Part No.	Description	Remark
101	4-996-808-01	WINDOW (TCL)	
102	4-996-809-01	WINDOW (TCR)	
103	4-996-799-01	LID (A), CASSETTE	
104	4-996-800-01	LID (B), CASSETTE	
105	4-996-732-01	SPRING (A DECK)	
106	4-996-733-01	SPRING (B DECK)	
107	4-959-229-11	DETENT, CASSETTE	
108	4-996-810-01	KNOB (JOG)	
109	4-996-811-01	KNOB (VOL)	
110	X-4949-323-1	PANEL ASSY, FRONT (EXCEPT AEP,UK,G,EA3)	
110	X-4949-329-1	PANEL ASSY, FRONT (RX99:AEP,UK,G)	
110	X-4949-509-1	PANEL ASSY, FRONT (RX88)	
110	X-4949-510-1	PANEL ASSY, FRONT (GRX8:EA3)	
111	4-962-708-11	EMBLEM (4-A), SONY	
112	4-988-663-01	FOOT (FELT)	
* 113	A-4407-304-A	CONT COM BOARD, COMPLETE (EXCEPT GRX8:EA4,TH)	
* 114	1-668-269-11	DECO BOARD	
115	4-996-812-01	HOLDER (LED)	
116	4-996-716-01	HOLDER (CDM)	

Ref. No.	Part No.	Description	Remark
* 117	1-668-268-11	CD-SW BOARD	
* 118	A-4407-257-A	PANEL BOARD, COMPLETE (GRX8/R800/RX99:EE,CIS)	
* 118	A-4407-308-A	PANEL BOARD, COMPLETE (RX88)	
* 118	A-4407-720-A	PANEL BOARD, COMPLETE (RX99:AEP,UK,G)	
* 119	4-996-796-01	HOLDER, FL TUBE	
* 120	4-932-810-31	CUSHION (FL)	
121	1-769-974-11	WIRE (FLAT TYPE) (13 CORE)	
122	3-319-224-01	DAMPER, SMALL	
123	4-951-620-01	SCREW (2.6X8), +BVTP	
* 124	1-668-271-11	HP BOARD	
125	4-986-893-51	KNOB (MICROPHONE)	
* 126	1-668-270-11	MIC BOARD	
127	X-4949-941-1	LID (L) ASSY, CASSETTE	
128	X-4949-942-1	LID (R) ASSY, CASSETTE	
129	4-995-081-01	LATCH, DC	
130	1-773-109-11	WIRE (FLAT TYPE)(19 CORE)(110mm)	
ND601	1-517-731-21	INDICATOR TUBE, FLUORESCENT	

8-6. BASE UNIT SECTION (BU-5BD29AL)

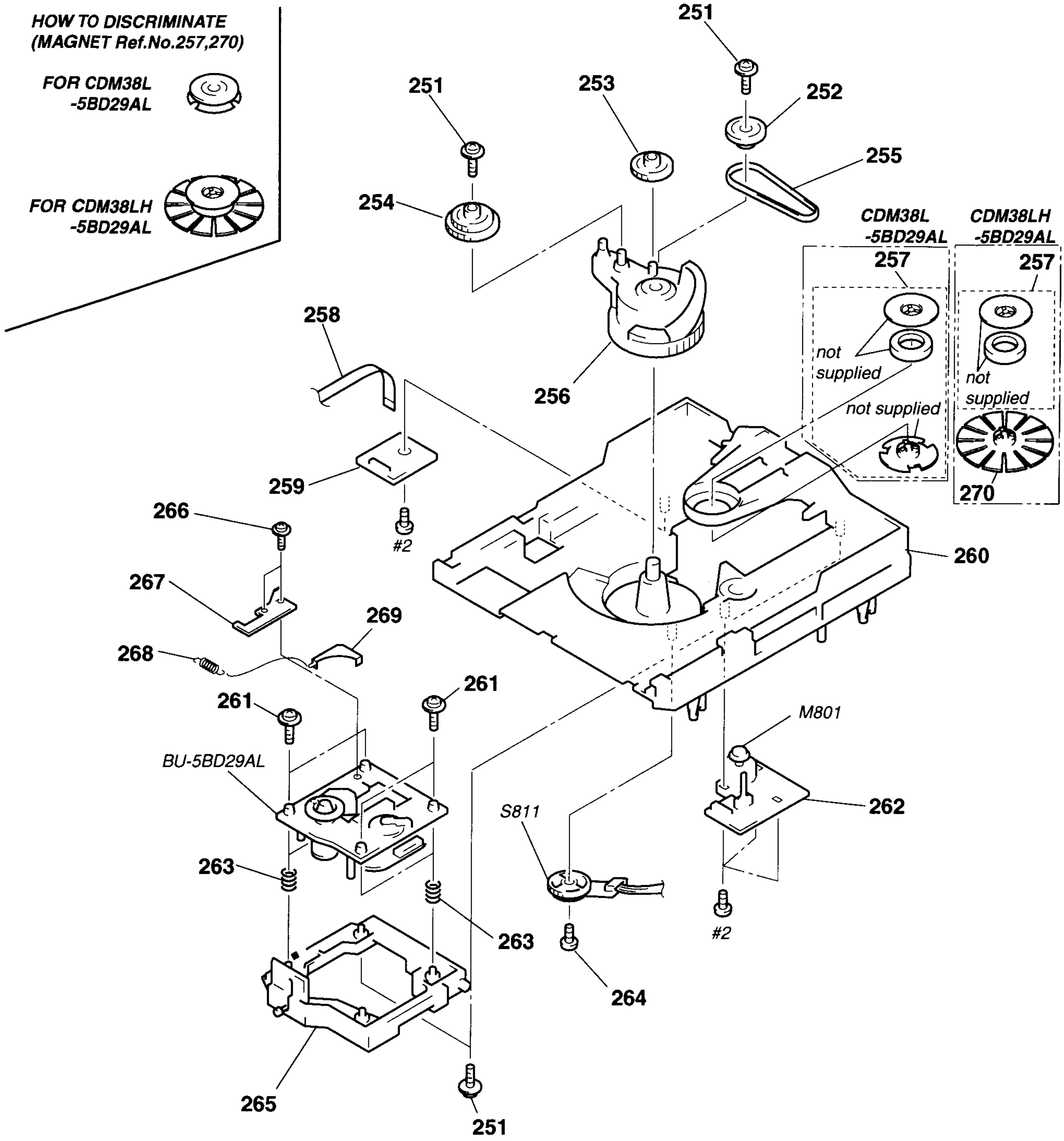


The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
⚠301	8-820-020-02	OPTICAL PICK-UP BLOCK KSS-213D/Q-NP	
302	1-769-069-11	WIRE (FLAT TYPE) (16 CORE)	
303	4-912-567-21	GEAR (M)	
304	4-951-940-01	INSULATOR (BU)	
305	4-917-565-01	SHAFT, SLED	

Ref. No.	Part No.	Description	Remark
306	4-917-564-01	GEAR (P), FLATNESS	
* 307	A-4699-522-A	BD BOARD, COMPLETE	
308	4-951-620-01	SCREW (2.6X8), +BVTP	
M101	X-4917-523-4	MOTOR ASSY (SPINDLE)	
M102	X-4917-504-1	MOTOR ASSY (SLED)	

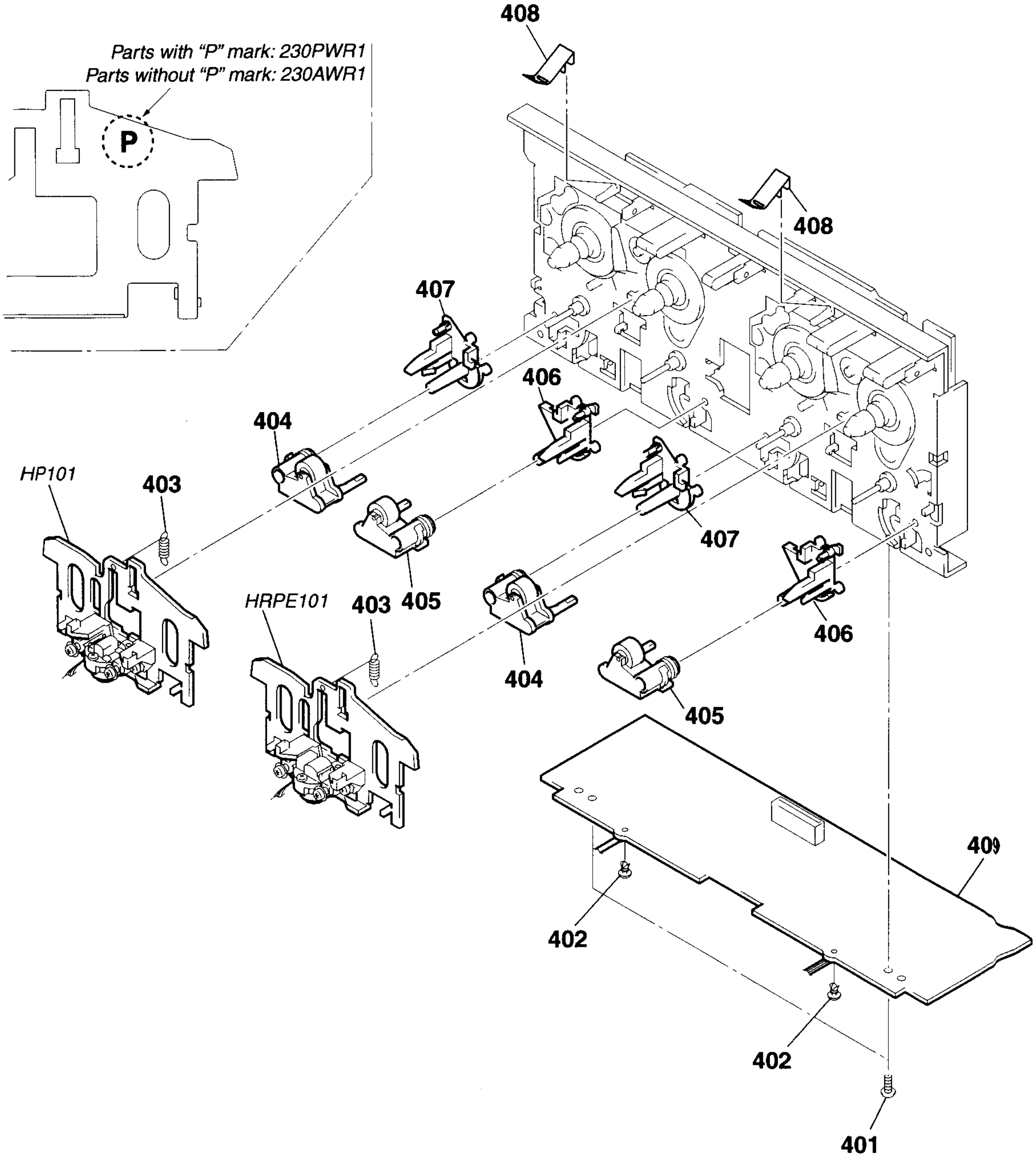
8-5. CD MECHANISM DECK SECTION-2 (CDM38L-5BD29AL CDM38LH-5BD29AL)


HOW TO DISCRIMINATE
(MAGNET Ref.No.257,270)
FOR CDM38L -5BD29AL
FOR CDM38LH -5BD29AL
251
251
253
252
255
254
CDM38L -5BD29AL
CDM38LH -5BD29AL
257
257
258
not supplied
not supplied
not supplied
256
259
270
266
#2
260
267
269
268
261
261
M801
BU-5BD29AL
262
S811
263
263
#2
264
265
251

Ref. No.	Part No.	Description	Remark
251	4-917-583-71	BRACKET, YOKE	
252	4-977-954-01	PULLEY (SL)	
253	4-977-953-01	GEAR (SL-A)	
254	4-977-955-01	GEAR (SL-B)	
255	4-977-942-01	BELT (SL) (1.4)	
256	X-4946-667-1	CAM ASSY, BU	
257	1-452-879-11	MAGNET (CDM38L-5BD29AL)	
257	1-452-925-21	MAGNET ASSY (CDM38LH-5BD29AL)	
258	1-776-042-11	WIRE (FLAT TYPE) (8 CORE)	
* 259	1-658-575-11	CONNECTOR BOARD	
* 260	X-4946-668-1	CHASSIS (CDM) ASSY	
261	4-985-672-01	SCREW (+PTPWH M2.6X6), FLOATING	
* 262	1-658-578-11	MOTOR (SLIDE) BOARD	
263	4-982-447-01	SPRING (BU), COMPRESSION	
264	4-951-620-41	SCREW (2.6), +BVTP	
* 265	X-4946-666-1	HOLDER (BU) ASSY	
266	4-989-494-01	SCREW (SLIDER), STEP	
267	4-989-492-21	SLIDER (38)	
268	4-989-819-02	SPRING, TENSION	
269	4-989-491-21	COVER, LENS	
270	4-933-142-11	PULLEY (L), PRESS (CDM38LH-5BD29AL)	
M801	A-4672-004-A	MOTOR ASSY (SLIDE)	
S811	1-473-335-11	ENCODER, ROTARY (BU, TRAY ADDRESS DET)	

8-7. TC MECHANISM SECTION 1 (TCM230AWR1 / TCM230PWR1)

***NOTE:** *Two types of parts which are not interchangeable are available for the Head deck (A) ASSY and Head deck (B) ASSY. When replacing the parts, refer to the following figure, and use the appropriate part*

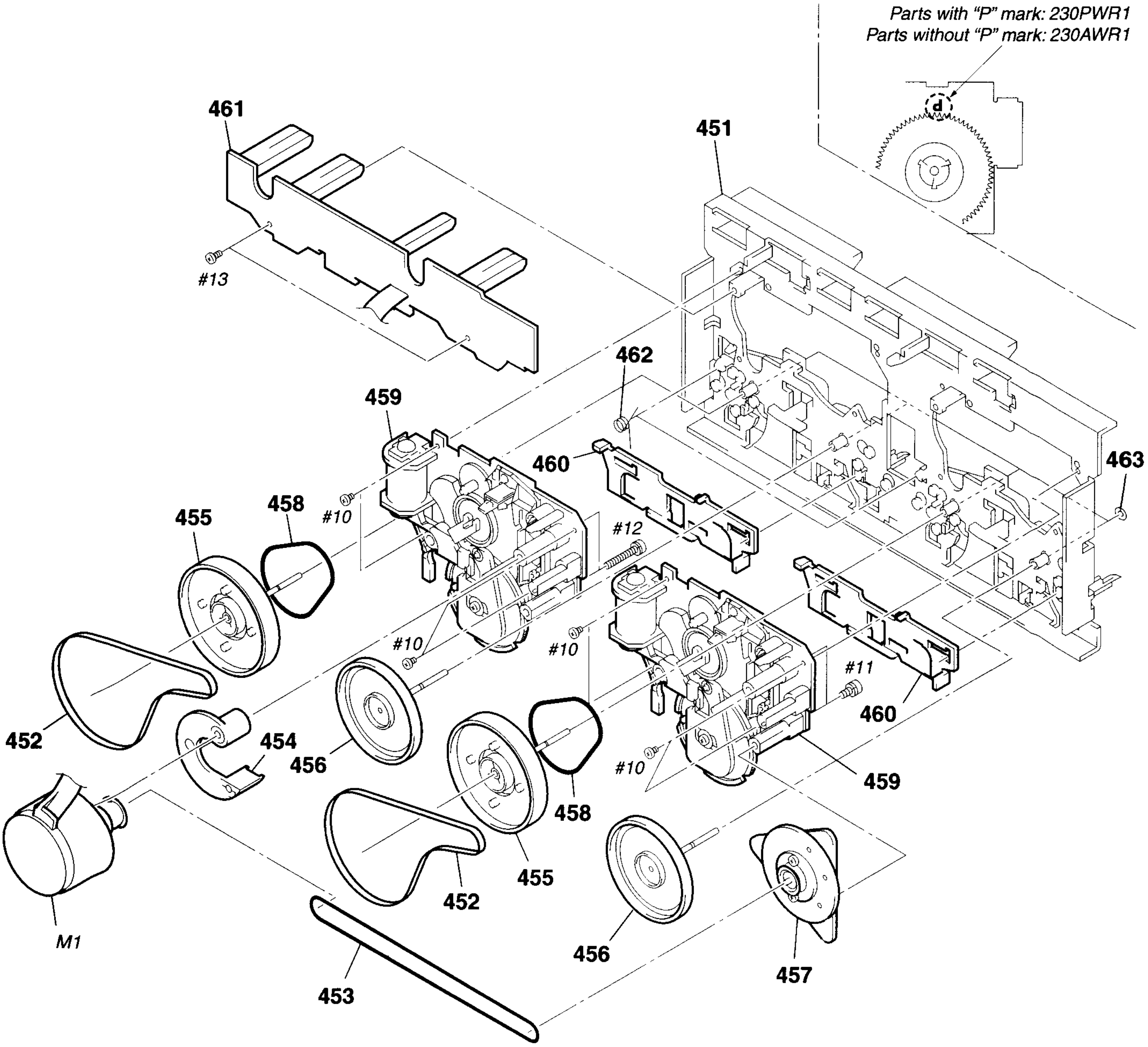

Parts with “P” mark: 230PWR1
Parts without “P” mark: 230AWR1
P
408
408
407
406
404
HP101
403
407
405
HRPE101
403
405
406
404
405
409
402
402
401

Ref. No.	Part No.	Description	Remark
401	3-376-464-11	SCREW (+PTT 2.6X6), GROUND POINT	
402	3-911-116-21	RIVET, PUSH	
403	3-016-574-01	SPRING (HEAD), TENSION	
404	X-3374-156-2	PINCH LEVER (REV) ASSY	
405	X-3374-155-2	PINCH LEVER (FWD) ASSY	
406	3-016-564-01	BASE (PINCH LEVER FWD)	

Ref. No.	Part No.	Description	Remark
407	3-016-565-01	BASE (PINCH LEVER REV)	
408	3-016-567-02	SPRING (CASSETTE), LEAF	
* 409	A-2007-731-A	AUDIO BOARD, COMPLETE	
HP101	A-2056-681-A	DECK (A) ASSY, HEAD (230AWR1)(*NOTE)	
HP101	A-2056-683-A	DECK (A) ASSY, HEAD (230PWR1)(*NOTE)	
HRPE101	A-2056-682-A	DECK (B) ASSY, HEAD (230AWR1)(*NOTE)	
HRPE101	A-2056-684-A	DECK (B) ASSY, HEAD (230PWR1)(*NOTE)	

8-8. TC MECHANISM SECTION 2 (TCM230AWR1 TCM230PWR1)

NOTE: *Two types of parts which are not interchangeable are available for the mechanical block assembly. When replacing the parts, refer to the following figure, and use the appropriate part.*


Parts with "P" mark: 230PWR1
Parts without "P" mark: 230AWR1

Ref. No.	Part No.	Description	Remark
* 451	X-3374-214-1	CASSIS ASSY, MAIN	
452	3-016-570-01	BELT (CAPSTAN)	
453	3-016-569-01	BELT (TENSION)	
454	3-017-360-01	BRACKET (MOTOR)	
455	X-3374-234-1	FLYWHEEL (FWD) ASSY	
456	X-3374-235-1	FLYWHEEL (REV) ASSY	
457	X-3374-238-1	PULLEY ASSY, TENSION	
458	3-024-405-01	BELT (FR)	
459	A-2004-629-A	MECHANICAL BLOCK ASSY (230AWR1)(*NOTE)	
459	A-2004-630-A	MECHANICAL BLOCK ASSY (230PWR1)(*NOTE)	
460	3-016-566-01	SLIDER, REVERSE	
* 461	A-2007-732-A	LEAF SW BOARD, COMPLETE	
462	3-016-575-01	SPRING, TORSION	
463	3-019-208-01	WASHER, STOPPER	
M1	A-2004-628-A	MOTOR ASSY, CAPSTAN	

SECTION 9
ELECTRICAL PARTS LIST

Note:

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board name.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- RESISTORS
  All resistors are in ohms
  METAL: Metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F : nonflammable
- SEMICONDUCTORS
  In each case, u: μ , for example:
  uA...: μ A..., uPA...: μ PA..., uPB...: μ PB..., uPC...: μ PC..., uPD...: μ PD...
- CAPACITORS
  uF : μ F
- COILS
  uH : μ H
- Abbreviation
  G : German model.
  EE : East European model.
  AUS : Australian model.
  EA3 : Saudi Arabia model.
  EA4 : Israel model.
  SP : Singapore model.
  TW : Thai model.
  HK : Hong Kong model.
  MY : Malaysia model.
  TH : Thailand model.
  E2 : Without SW tuner E model.
  E3 : With SW tuner E model.
  MX : Mexican model.
  AR : Argentine model.

Ref. No.	Part No.	Description			Remark
*	A-2007-731-A	AUDIO MOUNTED BOARD, COMPLETE ******************************			
		< CAPACITOR >			
C301	1-162-289-31	CERAMIC	390PF	10%	50V
C302	1-126-968-11	ELECT	100uF	20%	6.3V
C303	1-162-282-31	CERAMIC	100PF	10%	50V
C304	1-130-483-00	MYLAR	0.01uF	5%	50V
C305	1-107-715-11	ELECT	22uF	20%	16V
C311	1-162-289-31	CERAMIC	390PF	10%	50V
C313	1-162-282-31	CERAMIC	100PF	10%	50V
C314	1-130-487-00	MYLAR	0.022uF	5%	50V
C315	1-126-233-11	ELECT	22uF	20%	50V
C331	1-137-427-11	FILM	120PF	5%	50V
C332	1-162-288-31	CERAMIC	330PF	10%	50V
C333	1-162-209-31	CERAMIC	27PF	5%	50V
C401	1-162-289-31	CERAMIC	390PF	10%	50V
C402	1-126-968-11	ELECT	100uF	20%	6.3V
C403	1-162-282-31	CERAMIC	100PF	10%	50V
C404	1-130-483-00	MYLAR	0.01uF	5%	50V
C405	1-107-715-11	ELECT	22uF	20%	16V
C411	1-162-289-31	CERAMIC	390PF	10%	50V
C413	1-162-282-31	CERAMIC	100PF	10%	50V
C414	1-130-487-00	MYLAR	0.022uF	5%	50V
C415	1-126-233-11	ELECT	22uF	20%	50V
C431	1-137-427-11	FILM	120PF	5%	50V
C432	1-162-288-31	CERAMIC	330PF	10%	50V
C433	1-162-209-31	CERAMIC	27PF	5%	50V
C601	1-104-396-11	ELECT	10uF	20%	16V
C602	1-104-396-11	ELECT	10uF	20%	16V
C611	1-104-396-11	ELECT	10uF	20%	16V
C612	1-104-396-11	ELECT	10uF	20%	16V
C621	1-137-150-11	FILM	0.01uF	5%	100V
C622	1-126-961-11	ELECT	2.2uF	20%	50V
C623	1-136-155-00	FILM	0.015uF	5%	50V
C624	1-130-481-00	MYLAR	0.0068uF	5%	50V
C625	1-130-481-00	MYLAR	0.0068uF	5%	50V
C627	1-124-903-11	ELECT	1uF	20%	50V
C628	1-136-153-00	FILM	0.01uF	5%	50V
C642	1-104-664-11	ELECT	47uF	20%	16V

Ref. No.	Part No.	Description			Remark	
		< CONNECTOR >				
CN601	1-695-338-11	PIN, CONNECTOR (PC BOARD) 15P				
		< HEAD >				
HP101	A-2056-681-A	DECK (A) ASSY, HEAD (PLAY BACK HEAD)				
	7-685-783-09	SCREW +PTT 2X6 (S)				
HRPE101	A-2056-682-A	DECK (B) ASSY, HEAD (RECORD/PLAY BACK/ERASE HEAD)				
		< IC >				
IC601	8-759-111-44	IC UPC4570C-1				
IC602	8-759-143-54	IC UPC1330HA				
IC611	8-759-111-44	IC UPC4570C-1				
		< COIL >				
L331	1-410-780-11	INDUCTOR 27mH				
L431	1-410-780-11	INDUCTOR 27mH				
L601	1-414-193-41	INDUCTOR, MICRO 22uH				
L602	1-414-193-41	INDUCTOR, MICRO 22uH				
		< TRANSISTOR >				
Q621	8-729-142-46	TRANSISTOR 2SC2001-LK				
Q622	8-729-142-46	TRANSISTOR 2SC2001-LK				
Q623	8-729-801-93	TRANSISTOR 2SD1387				
		< RESISTOR >				
R301	1-247-881-00	CARBON	120K	5%	1/4W	
R302	1-249-409-11	CARBON	220	5%	1/4W	F
R303	1-249-433-11	CARBON	22K	5%	1/4W	
R304	1-247-889-00	CARBON	270K	5%	1/4W	
R305	1-247-858-11	CARBON	13K	5%	1/4W	
R311	1-247-881-00	CARBON	120K	5%	1/4W	
R312	1-247-807-31	CARBON	100	5%	1/4W	
R314	1-247-882-11	CARBON	130K	5%	1/4W	
R315	1-247-850-11	CARBON	6.2K	5%	1/4W	
R331	1-249-430-11	CARBON	12K	5%	1/4W	
R401	1-247-881-00	CARBON	120K	5%	1/4W	
R402	1-249-409-11	CARBON	220	5%	1/4W	F
R403	1-249-433-11	CARBON	22K	5%	1/4W	
R404	1-247-889-00	CARBON	270K	5%	1/4W	

AUDIO **BD**

Ref. No.	Part No.	Description			Remark	
R405	1-247-858-11	CARBON	13K	5%	1/4W	
R411	1-247-881-00	CARBON	120K	5%	1/4W	
R412	1-247-807-31	CARBON	100	5%	1/4W	
R414	1-247-882-11	CARBON	130K	5%	1/4W	
R415	1-247-850-11	CARBON	6.2K	5%	1/4W	
R431	1-249-430-11	CARBON	12K	5%	1/4W	
R601	1-249-409-11	CARBON	220	5%	1/4W	F
R602	1-249-409-11	CARBON	220	5%	1/4W	F
R608	1-249-409-11	CARBON	220	5%	1/4W	F
R609	1-249-433-11	CARBON	22K	5%	1/4W	
R611	1-249-409-11	CARBON	220	5%	1/4W	F
R612	1-249-409-11	CARBON	220	5%	1/4W	F
⚠R621	1-212-851-00	FUSIBLE	5.6	5%	1/4W	F
⚠R622	1-212-851-00	FUSIBLE	5.6	5%	1/4W	F
R623	1-249-432-11	CARBON	18K	5%	1/4W	
R624	1-249-432-11	CARBON	18K	5%	1/4W	
R625	1-249-429-11	CARBON	10K	5%	1/4W	

< VARIABLE RESISTOR >

RV301	1-238-598-11	RES, ADJ, CARBON 2.2K
RV311	1-238-598-11	RES, ADJ, CARBON 2.2K
RV341	1-241-768-11	RES, ADJ, CARBON 220K
RV401	1-238-598-11	RES, ADJ, CARBON 2.2K
RV411	1-238-598-11	RES, ADJ, CARBON 2.2K
RV441	1-241-768-11	RES, ADJ, CARBON 220K

< TRANSFORMER >

T621	1-423-980-11	TRANSFORMER, BIAS OSCILLATION

****

* A-4699-522-A BD BOARD, COMPLETE

****

< CAPACITOR >

C101	1-126-607-11	ELECT CHIP	47uF	20%	4V
C102	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C103	1-164-346-11	CERAMIC CHIP	1uF		16V
C105	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C106	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C107	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C108	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C109	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C110	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C111	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C112	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C113	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C114	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C115	1-126-607-11	ELECT CHIP	47uF	20%	4V
C116	1-163-016-00	CERAMIC CHIP	0.0039uF	10%	50V
C117	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C118	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C119	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C120	1-124-779-00	ELECT CHIP	10uF	20%	16V
C121	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C122	1-164-232-11	CERAMIC CHIP	0.01uF		50V

Ref. No.	Part No.	Description			Remark
C123	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C124	1-126-607-11	ELECT CHIP	47uF	20%	4V
C125	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C126	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C127	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C128	1-163-135-00	CERAMIC CHIP	560PF	5%	50V
C129	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C130	1-164-336-11	CERAMIC CHIP	0.33uF		25V
C131	1-164-346-11	CERAMIC CHIP	1uF		16V
C140	1-110-501-11	CERAMIC CHIP	0.33uF	10%	16V
C154	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C161	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C162	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C163	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C164	1-163-145-00	CERAMIC CHIP	0.0015uF	5%	50V
C165	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C166	1-163-137-00	CERAMIC CHIP	680PF	5%	50V
C167	1-163-121-00	CERAMIC CHIP	150PF	5%	50V
C168	1-163-137-00	CERAMIC CHIP	680PF	5%	50V
C169	1-163-121-00	CERAMIC CHIP	150PF	5%	50V
C170	1-163-099-00	CERAMIC CHIP	18PF	5%	50V
C171	1-163-237-11	CERAMIC CHIP	27PF	5%	50V
C173	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C174	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C175	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C176	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C177	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C178	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C179	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C181	1-126-205-11	ELECT CHIP	47uF	20%	6.3V
C182	1-126-393-11	ELECT CHIP	33uF	20%	10V
C183	1-124-778-00	ELECT CHIP	22uF	20%	6.3V
C185	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C188	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C189	1-163-235-11	CERAMIC CHIP	22PF	5%	50V

< CONNECTOR >

CNU101	1-770-014-11	CONNECTOR, FFC/FPC 16P
CNU102	1-778-874-11	CONNECTOR, FFC (LIF (NON-ZIF)) 19P

< FERRITE BEAD >

FB101	1-414-234-11	INDUCTOR CHIP 0UH
FB103	1-414-234-11	INDUCTOR CHIP 0UH

< IC >

IC101	8-752-080-62	IC CXA1992AR
IC102	8-759-429-32	IC BA5941FP-E2
IC103	8-752-378-66	IC CXD2519Q

< JUMPER RESISTOR >

JW101	1-216-295-91	SHORT	0
JW104	1-216-295-91	SHORT	0

< MOTOR >

M101	X-4917-523-4	MOTOR ASSY (SPINDLE)
M102	X-4917-504-1	MOTOR ASSY (SLED)

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Ref. No.	Part No.	Description			Remark
		< TRANSISTOR >			
Q101	8-729-010-08	TRANSISTOR MSB710-R			
		< RESISTOR >			
R102	1-216-001-00	METAL CHIP	10	5%	1/10W
R104	1-216-093-00	METAL CHIP	68K	5%	1/10W
R105	1-216-088-00	METAL CHIP	43K	5%	1/10W
R106	1-216-088-00	METAL CHIP	43K	5%	1/10W
R107	1-216-088-00	METAL CHIP	43K	5%	1/10W
R108	1-216-088-00	METAL CHIP	43K	5%	1/10W
R109	1-216-093-00	METAL CHIP	68K	5%	1/10W
R114	1-216-101-00	METAL CHIP	150K	5%	1/10W
R115	1-216-101-00	METAL CHIP	150K	5%	1/10W
R116	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R117	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R118	1-216-063-91	RES, CHIP	3.9K	5%	1/10W
R119	1-216-085-00	METAL CHIP	33K	5%	1/10W
R120	1-216-089-91	RES, CHIP	47K	5%	1/10W
R121	1-216-114-00	RES, CHIP	510K	5%	1/10W
R122	1-216-097-91	RES, CHIP	100K	5%	1/10W
R123	1-216-099-00	METAL CHIP	120K	5%	1/10W
R124	1-216-091-00	METAL CHIP	56K	5%	1/10W
R125	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R126	1-216-063-91	RES, CHIP	3.9K	5%	1/10W
R127	1-216-089-91	RES, CHIP	47K	5%	1/10W
R128	1-216-098-00	METAL CHIP	110K	5%	1/10W
R129	1-216-025-91	RES, CHIP	100	5%	1/10W
R130	1-216-079-00	METAL CHIP	18K	5%	1/10W
R131	1-216-079-00	METAL CHIP	18K	5%	1/10W
R132	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R133	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R134	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R135	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R136	1-216-073-00	METAL CHIP	10K	5%	1/10W
R137	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R138	1-216-025-91	RES, CHIP	100	5%	1/10W
R156	1-216-081-00	METAL CHIP	22K	5%	1/10W
R157	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R158	1-216-001-00	METAL CHIP	10	5%	1/10W
R159	1-216-121-91	RES, CHIP	1M	5%	1/10W
R161	1-216-097-91	RES, CHIP	100K	5%	1/10W
R162	1-216-073-00	METAL CHIP	10K	5%	1/10W
R163	1-216-121-91	RES, CHIP	1M	5%	1/10W
R164	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R165	1-216-049-91	RES, CHIP	1K	5%	1/10W
R166	1-216-073-00	METAL CHIP	10K	5%	1/10W
R167	1-216-081-00	METAL CHIP	22K	5%	1/10W
R168	1-216-073-00	METAL CHIP	10K	5%	1/10W
R169	1-216-079-00	METAL CHIP	18K	5%	1/10W
R170	1-216-081-00	METAL CHIP	22K	5%	1/10W
R171	1-216-073-00	METAL CHIP	10K	5%	1/10W
R172	1-216-079-00	METAL CHIP	18K	5%	1/10W
R173	1-216-025-91	RES, CHIP	100	5%	1/10W
R174	1-216-033-00	METAL CHIP	220	5%	1/10W
R175	1-216-025-91	RES, CHIP	100	5%	1/10W
R176	1-216-025-91	RES, CHIP	100	5%	1/10W

Ref. No.	Part No.	Description			Remark
R177	1-216-025-91	RES, CHIP	100	5%	1/10W
R178	1-216-025-91	RES, CHIP	100	5%	1/10W
R179	1-216-025-91	RES, CHIP	100	5%	1/10W
R180	1-216-025-91	RES, CHIP	100	5%	1/10W
R181	1-216-025-91	RES, CHIP	100	5%	1/10W
R188	1-216-037-00	METAL CHIP	330	5%	1/10W
R190	1-216-097-91	RES, CHIP	100K	5%	1/10W
R191	1-216-105-91	RES, CHIP	220K	5%	1/10W
		< SWITCH >			
S101	1-572-085-11	SWITCH, LEAF (LIMIT)			
		< VIBRATOR >			
X101	1-767-408-21	VIBRATOR, CRYSTAL (16.9344MHz)			

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*	1-668-268-11	CD-SW BOARD ***********			
		< DIODE >			
D631	8-719-056-13	DIODE SML79423C-TP15 (DISC 1)			
D632	8-719-056-13	DIODE SML79423C-TP15 (DISC 2)			
D633	8-719-056-13	DIODE SML79423C-TP15 (DISC 3)			
		< JUMPER RESISTOR >			
JW901	1-216-296-91	SHORT 0			
JW902	1-216-295-91	SHORT 0			
		< TRANSISTOR >			
Q613	8-729-027-60	TRANSISTOR DTC144TKA-T146			
Q614	8-729-027-60	TRANSISTOR DTC144TKA-T146			
Q615	8-729-027-60	TRANSISTOR DTC144TKA-T146			
		< RESISTOR >			
R656	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R657	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R658	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R659	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R660	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R691	1-216-027-00	METAL CHIP	120	5%	1/10W
R692	1-216-027-00	METAL CHIP	120	5%	1/10W
R693	1-216-027-00	METAL CHIP	120	5%	1/10W
R694	1-216-027-00	METAL CHIP	120	5%	1/10W
R695	1-216-027-00	METAL CHIP	120	5%	1/10W
R696	1-216-027-00	METAL CHIP	120	5%	1/10W
		< SWITCH >			
S637	1-762-875-21	SWITCH, KEYBOARD (I/⏻)			
S638	1-762-875-21	SWITCH, KEYBOARD (DISC 1)			
S639	1-762-875-21	SWITCH, KEYBOARD (DISC 2)			
S640	1-762-875-21	SWITCH, KEYBOARD (DISC 3)			
S641	1-762-875-21	SWITCH, KEYBOARD (DISC SKIP EX-CHANGE)			
S642	1-762-875-21	SWITCH, KEYBOARD (⏏)			

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CONNECTOR | CONT COM | DECO

Ref. No.	Part No.	Description			Remark
*	1-658-575-11	CONNECTOR BOARD ****************			
		< CONNECTOR >			
* CN701	1-568-946-11	PIN, CONNECTOR 8P			
CN702	1-750-413-11	CONNECTOR, FFC/FPC 8P			
		< TRANSISTOR >			
Q701	8-729-900-80	TRANSISTOR DTC114ES			
		< RESISTOR >			
R703	1-249-435-11	CARBON	33K	5%	1/4W
R704	1-249-429-11	CARBON	10K	5%	1/4W
R705	1-249-417-11	CARBON	1K	5%	1/4W F

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Ref. No.	Part No.	Description			Remark
*	A-4407-304-A	CONT COM BOARD, COMPLETE **************************			
		< CAPACITOR >			
C627	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C628	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C629	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C630	1-164-232-11	CERAMIC CHIP	0.01uF		50V
		< CONNECTOR >			
* CN608	1-568-862-11	SOCKET, CONNECTOR 19P			
		< DIODE >			
D610	8-719-063-93	DIODE SLR325VC-N-T32 (ENTER/NEXT)			
D612	8-719-057-97	DIODE SEL5923A-TP15 (GROOVE)			
D613	8-719-063-93	DIODE SLR325VC-N-T32 (JOG)			
D614	8-719-064-65	DIODE SELU5723C-TP15 (DJ MIX)			
D615	8-719-064-65	DIODE SELU5723C-TP15 (DJ MIX)			
D616	8-719-063-93	DIODE SLR325VC-N-T32 (NON-STOP)			
D617	8-719-063-93	DIODE SLR325VC-N-T32 (– ◀◀)			
D618	8-719-063-93	DIODE SLR325VC-N-T32 (+ ▶▶)			
D801	8-719-057-97	DIODE SEL5923A-TP15 (ON/OFF)			
D802	8-719-057-97	DIODE SEL5923A-TP15 (JAM)			
D803	8-719-056-13	DIODE SML79423C-TP15 (AUTO BPM)			
		< TRANSISTOR >			
Q604	8-729-027-60	TRANSISTOR DTC144TKA-T146			
Q854	8-729-027-23	TRANSISTOR DTA114EKA-T146			
Q855	8-729-027-23	TRANSISTOR DTA114EKA-T146			
		< RESISTOR >			
R637	1-216-033-00	METAL CHIP	220	5%	1/10W
R638	1-216-035-00	METAL CHIP	270	5%	1/10W
R639	1-216-039-00	METAL CHIP	390	5%	1/10W
R640	1-216-041-00	METAL CHIP	470	5%	1/10W
R641	1-216-045-00	METAL CHIP	680	5%	1/10W
R642	1-216-047-91	RES,CHIP	820	5%	1/10W
R643	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R666	1-216-037-00	METAL CHIP	330	5%	1/10W
R667	1-216-029-00	METAL CHIP	150	5%	1/10W
R668	1-216-027-00	METAL CHIP	120	5%	1/10W
R669	1-216-019-00	METAL CHIP	56	5%	1/10W
R670	1-216-037-00	METAL CHIP	330	5%	1/10W
R671	1-216-031-00	METAL CHIP	180	5%	1/10W
R811	1-216-029-00	METAL CHIP	150	5%	1/10W
R812	1-216-029-00	METAL CHIP	150	5%	1/10W
R813	1-216-029-00	METAL CHIP	150	5%	1/10W
R814	1-216-029-00	METAL CHIP	150	5%	1/10W
R821	1-216-033-00	METAL CHIP	220	5%	1/10W
R822	1-216-035-00	METAL CHIP	270	5%	1/10W
R823	1-216-039-00	METAL CHIP	390	5%	1/10W
R831	1-216-033-00	METAL CHIP	220	5%	1/10W
R832	1-216-035-00	METAL CHIP	270	5%	1/10W
R833	1-216-039-00	METAL CHIP	390	5%	1/10W
		< SWITCH >			
S601	1-473-534-11	ENCODER, ROTARY (JOG)			
S602	1-473-392-11	ENCODER, ROTARY (VOLUME)			
S617	1-762-875-21	SWITCH, KEYBOARD (LOOP)			
S618	1-762-875-21	SWITCH, KEYBOARD (FLASH)			
S619	1-762-875-21	SWITCH, KEYBOARD (NON-STOP)			
S621	1-762-875-21	SWITCH, KEYBOARD (–◀◀)			
S622	1-762-875-21	SWITCH, KEYBOARD (ENTER/NEXT)			
S623	1-762-875-21	SWITCH, KEYBOARD (+ ▶▶)			
S624	1-762-875-21	SWITCH, KEYBOARD (DBFB)			
S625	1-762-875-21	SWITCH, KEYBOARD (GROOVE)			
S801	1-762-875-21	SWITCH, KEYBOARD (PAD-B)			
S802	1-762-875-21	SWITCH, KEYBOARD (AUTO BPM)			
S803	1-762-875-21	SWITCH, KEYBOARD (JAM-BEAT)			
S804	1-762-875-21	SWITCH, KEYBOARD (BEAT LEVEL)			
S805	1-762-875-21	SWITCH, KEYBOARD (PAD-A)			
S806	1-762-875-21	SWITCH, KEYBOARD (ON/OFF-BEAT)			
S807	1-762-875-21	SWITCH, KEYBOARD (SELECT-BEAT)			
S808	1-762-875-21	SWITCH, KEYBOARD (SPEED-BEAT)			

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Ref. No.	Part No.	Description			Remark
*	1-668-269-11	DECO BOARD **********			
		< DIODE >			
D640	8-719-063-93	DIODE SLR325VC-N-T32 (CENTER)			
D641	8-719-032-86	DIODE SEL5420E (LEFT)			
D642	8-719-032-86	DIODE SEL5420E (LEFT)			
D643	8-719-032-86	DIODE SEL5420E (LEFT)			
D644	8-719-033-06	DIODE SEL5920A (CENTER)			
D655	8-719-033-06	DIODE SEL5920A (RIGHT)			
D656	8-719-033-06	DIODE SEL5920A (RIGHT)			
		< TRANSISTOR >			
Q856	8-729-027-60	TRANSISTOR DTC144TKA-T146			
Q857	8-729-027-60	TRANSISTOR DTC144TKA-T146			
		< RESISTOR >			
R706	1-216-019-00	METAL CHIP	56	5%	1/10W
R707	1-216-019-00	METAL CHIP	56	5%	1/10W
R708	1-216-041-00	METAL CHIP	470	5%	1/10W

Ref. No.	Part No.	Description			Remark	
R709	1-216-027-00	METAL CHIP	120	5%	1/10W	
R710	1-216-027-00	METAL CHIP	120	5%	1/10W	

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Ref. No.	Part No.	Description			Remark
*	1-668-271-11	HP BOARD ********			
		< CAPACITOR >			
C790	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C791	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C792	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
		< CONNECTOR >			
CN752	1-506-469-11	PIN, CONNECTOR 4P			
		< GROUND PLATE >			
* EP751	1-537-738-21	TERMINAL, EARTH			
		< JACK >			
J755	1-784-224-11	JACK (LARGE TYPE)(PHONES)			

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Ref. No.	Part No.	Description			Remark	
*	A-2007-732-A	LEAF SW BOARD, COMPLETE ************************				
		< CAPACITOR >				
C1001	1-128-124-11	ELECT	33uF	20%	10V	
		< CONNECTOR >				
CN1001	1-568-860-11	SOCKET, CONNECTOR 17P				
CN1001	1-784-459-11	CONNECTOR, FFC/FPC 17P				
		< DIODE >				
D1001	8-719-911-19	DIODE 1SS119				
D1002	8-719-911-19	DIODE 1SS119				
		< CONNECTOR >				
* DM1001	1-784-581-11	HOLDER, CABLE (2.5MM PITCH) 4P				
		< IC >				
IC1001	8-749-014-38	IC PHOTO INTERRUPTER SG-264				
IC1002	8-749-014-38	IC PHOTO INTERRUPTER SG-264				
		< TRANSISTOR >				
Q1001	8-729-029-56	TRANSISTOR DTA144ESA				
Q1001	8-729-900-65	TRANSISTOR DTA144ES				
		< RESISTOR >				
R907	1-247-879-11	CARBON	100K	5%	1/4W	
R1001	1-249-409-11	CARBON	220	5%	1/4W	F
R1002	1-249-409-11	CARBON	220	5%	1/4W	F
R1003	1-249-414-11	CARBON	560	5%	1/4W	F
R1004	1-247-834-11	CARBON	1.3K	5%	1/4W	
R1005	1-247-818-11	CARBON	300	5%	1/4W	
R1006	1-247-864-11	CARBON	24K	5%	1/4W	
R1007	1-247-856-00	CARBON	11K	5%	1/4W	
R1008	1-249-417-11	CARBON	1K	5%	1/4W	F
		< VARIABLE RESISTOR >				
RV1001	1-241-785-11	RES, ADJ, CARBON 10K				
RV1002	1-241-785-11	RES, ADJ, CARBON 10K				
		< SWITCH >				
S1001	1-570-953-11	SWITCH, PUSH (1 KEY) (A PLAY)				
S1002	1-570-953-11	SWITCH, PUSH (1 KEY) (B PLAY)				
S1003	1-771-333-11	SWITCH, LEAF (A HALF)				
S1004	1-771-205-11	SWITCH, LEAF (A 120/70)				
S1005	1-771-205-11	SWITCH, LEAF (REC A)				
S1006	1-771-333-11	SWITCH, LEAF (B HALF)				
S1008	1-771-205-11	SWITCH, LEAF (B 120/70)				
S1009	1-771-205-11	SWITCH, LEAF (REC B)				

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Ref. No.	Part No.	Description			Remark
*	A-4405-131-A	MAIN BOARD, COMPLETE ******************* (GRX8:E3,SP,MY,HK,TW,EA3)			
*	A-4405-146-A	MAIN BOARD, COMPLETE ******************* (RX88/RX99:AEP,UK,G)			
*	A-4407-252-A	MAIN BOARD, COMPLETE (GRX8:E2,MX/R800) *******************			
*	A-4407-322-A	MAIN BOARD, COMPLETE (RX99:EE,CIS) ***********************************			
*	A-4407-723-A	MAIN BOARD, COMPLETE (GRX8:AUS) *******************			
*	A-4407-749-A	MAIN BOARD, COMPLETE (GRX8:EA4,TH) *******************			
	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S			
		< CAPACITOR >			
C101	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C102	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C103	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C111	1-137-195-11	FILM	0.56uF	5%	50V
C112	1-163-986-00	CERAMIC CHIP	0.027uF	10%	25V
C113	1-136-167-00	FILM	0.15uF	5%	50V
C114	1-163-018-00	CERAMIC CHIP	0.0056uF	5%	50V
C115	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C116	1-163-011-11	CERAMIC CHIP	0.0015uF	10%	50V
C117	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C118	1-163-003-11	CERAMIC CHIP	330PF	10%	50V
C119	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C120	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V
C121	1-126-964-11	ELECT	10uF	20%	50V
C122	1-163-006-11	CERAMIC CHIP	560PF	10%	50V
C123	1-136-169-00	FILM	0.22uF	5%	50V
C124	1-136-169-00	FILM	0.22uF	5%	50V
C125	1-126-964-11	ELECT	10uF	20%	50V

MAIN

Ref. No.	Part No.	Description			Remark
C131	1-126-933-11	ELECT	100uF	20%	10V
C132	1-126-933-11	ELECT	100uF	20%	10V
C133	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C134	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C135	1-126-964-11	ELECT	10uF	20%	50V
C136	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C137	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C141	1-124-767-00	ELECT	2.2uF	20%	50V
C151	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C152	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C153	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C154	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C161	1-137-195-11	FILM	0.56uF	5%	50V
C162	1-163-986-00	CERAMIC CHIP	0.027uF	10%	25V
C163	1-136-167-00	FILM	0.15uF	5%	50V
C164	1-163-018-00	CERAMIC CHIP	0.0056uF	5%	50V
C165	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C166	1-163-011-11	CERAMIC CHIP	0.0015uF	10%	50V
C167	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C168	1-163-003-11	CERAMIC CHIP	330PF	10%	50V
C169	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C170	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V
C171	1-126-964-11	ELECT	10uF	20%	50V
C172	1-163-006-11	CERAMIC CHIP	560PF	10%	50V
C173	1-136-169-00	FILM	0.22uF	5%	50V
C174	1-136-169-00	FILM	0.22uF	5%	50V
C175	1-126-964-11	ELECT	10uF	20%	50V
C176	1-164-344-11	CERAMIC CHIP	0.068uF	10%	25V
C177	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C191	1-126-964-11	ELECT	10uF	20%	50V
C192	1-163-007-11	CERAMIC CHIP	680PF	10%	50V
C193	1-126-964-11	ELECT	10uF	20%	50V
C194	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C195	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C196	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C197	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C301	1-126-960-11	ELECT	1uF	20%	50V
C302	1-130-479-00	MYLAR	0.0047uF	5%	50V
C303	1-136-165-00	FILM	0.1uF	5%	50V
C304	1-136-165-00	FILM	0.1uF	5%	50V
C305	1-126-964-11	ELECT	10uF	20%	50V
C306	1-126-960-11	ELECT	1uF	20%	50V
C307	1-126-959-11	ELECT	0.47uF	20%	50V
C308	1-126-964-11	ELECT	10uF	20%	50V
C309	1-136-173-00	FILM	0.47uF	5%	50V
C310	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C311	1-126-964-11	ELECT	10uF	20%	50V
C312	1-126-959-11	ELECT	0.47uF	20%	50V
C313	1-130-471-00	MYLAR	0.001uF	5%	50V
C314	1-126-964-11	ELECT	10uF	20%	50V
C315	1-126-963-11	ELECT	4.7uF	20%	50V
C316	1-126-933-11	ELECT	100uF	20%	10V
C317	1-126-933-11	ELECT	100uF	20%	10V
C320	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C331	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C332	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C333	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V

Ref. No.	Part No.	Description			Remark
C334	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C351	1-126-960-11	ELECT	1uF	20%	50V
C352	1-130-479-00	MYLAR	0.0047uF	5%	50V
C353	1-136-165-00	FILM	0.1uF	5%	50V
C354	1-136-165-00	FILM	0.1uF	5%	50V
C355	1-126-964-11	ELECT	10uF	20%	50V
C356	1-126-960-11	ELECT	1uF	20%	50V
C357	1-126-959-11	ELECT	0.47uF	20%	50V
C358	1-126-964-11	ELECT	10uF	20%	50V
C359	1-136-173-00	FILM	0.47uF	5%	50V
C371	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C372	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C373	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C374	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C375	1-163-038-91	CERAMIC CHIP	0.1uF		25V (RX99:EE,CIS)
C376	1-163-038-91	CERAMIC CHIP	0.1uF		25V (RX99:EE,CIS)
C381	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C382	1-126-925-11	ELECT	470uF	20%	10V
C383	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C384	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C385	1-126-961-11	ELECT	2.2uF	20%	50V
C386	1-126-961-11	ELECT	2.2uF	20%	50V
C387	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C388	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C391	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C392	1-126-933-11	ELECT	100uF	20%	10V
C401	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C402	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C403	1-126-964-11	ELECT	10uF	20%	50V
C411	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C412	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C414	1-126-964-11	ELECT	10uF	20%	50V
C415	1-126-964-11	ELECT	10uF	20%	50V
C501	1-126-916-11	ELECT	1000uF	20%	6.3V
C502	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C503	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C504	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C505	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C506	1-126-933-11	ELECT	100uF	20%	10V
C508	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C901	1-126-937-11	ELECT	4700uF	20%	16V (RX88/RX99)
C901	1-128-548-11	ELECT	4700uF	20%	25V (GRX8/R800)
C902	1-126-768-11	ELECT	2200uF	20%	16V (RX88/RX99)
C902	1-126-943-11	ELECT	2200uF	20%	25V (GRX8/R800)
C903	1-126-964-11	ELECT	10uF	20%	50V
C904	1-126-964-11	ELECT	10uF	20%	50V
C905	1-126-933-11	ELECT	100uF	20%	10V
C906	1-126-933-11	ELECT	100uF	20%	10V
C907	1-126-925-11	ELECT	470uF	20%	10V
C908	1-126-925-11	ELECT	470uF	20%	10V
C911	1-126-964-11	ELECT	10uF	20%	50V
C912	1-126-768-11	ELECT	2200uF	20%	16V

Ref. No.	Part No.	Description	Remark
C921	1-126-964-11	ELECT 10uF 20%	50V
C922	1-126-767-11	ELECT 1000uF 20%	16V
C931	1-126-964-11	ELECT 10uF 20%	50V
C932	1-126-916-11	ELECT 1000uF 20%	6.3V
C933	1-126-925-11	ELECT 470uF 20%	10V
C934	1-126-933-11	ELECT 100uF 20%	10V
C941	1-126-964-11	ELECT 10uF 20%	50V
C942	1-126-933-11	ELECT 100uF 20%	10V
C951	1-126-967-11	ELECT 47uF 20%	10V
C952	1-136-165-00	FILM 0.1uF 5%	50V
C953	1-136-173-00	FILM 0.47uF 5%	50V
C961	1-163-038-91	CERAMIC CHIP 0.1uF	25V
C991	1-163-038-91	CERAMIC CHIP 0.1uF	25V
		< CONNECTOR >	
* CN101	1-568-832-11	SOCKET, CONNECTOR 13P	
CN102	1-784-600-11	SOCKET, CONNECTOR (NON ZIF)15P	(GRX8:E3,SP,MY,HK,TW,EA3/RX88/RX99)
CN102	1-784-601-11	SOCKET, CONNECTOR (NON ZIF) 13P	(GRX8:E2,MX,EA4,TH,AUS/R800)
* CN103	1-568-946-11	PIN, CONNECTOR 8P	
* CN104	1-568-947-11	PIN, CONNECTOR 9P	
CN105	1-764-698-11	SOCKET, CONNECTOR (NON ZIF) 19P	
CN106	1-568-834-11	SOCKET, CONNECTOR 15P	
* CN107	1-568-836-11	SOCKET, CONNECTOR 17P	
* CN301	1-568-449-11	HOUSING, CONNECTOR(PC BOARD) 3P	
CN901	1-778-982-11	CONNECTOR, BOARD TO BOARD 13P	
CN902	1-770-728-11	CONNECTOR, BOARD TO BOARD 9P	
* CN961	1-564-518-11	PLUG, CONNECTOR 3P	
		< DIODE >	
D381	8-719-988-62	DIODE 1SS355	
D382	8-719-988-62	DIODE 1SS355	
D502	8-719-988-62	DIODE 1SS355	
D508	8-719-988-62	DIODE 1SS355	
D572	8-719-988-62	DIODE 1SS355	
D901	8-719-988-62	DIODE 1SS355	
D911	8-719-988-62	DIODE 1SS355	
D931	8-719-988-62	DIODE 1SS355	
D932	8-719-210-33	DIODE EC10DS2	
D951	8-719-988-62	DIODE 1SS355	
D952	8-719-988-62	DIODE 1SS355	
D953	8-719-988-62	DIODE 1SS355	
D954	8-719-988-62	DIODE 1SS355	
D955	8-719-210-33	DIODE EC10DS2	
D956	8-719-988-62	DIODE 1SS355	
		< GROUND TERMINAL >	
* EPT901	4-870-539-11	PLATE, GROUND	
		< COIL >	
FB381	1-414-234-11	INDUCTOR CHIP 0UH	
		< IC >	
IC111	8-759-495-24	IC M62442FP-TP	
IC191	8-759-636-55	IC M5218AFP	
IC301	8-759-495-26	IC HA12215	
IC391	8-749-923-04	IC TOTX178	
IC401	8-759-636-55	IC M5218AFP	
IC411	8-759-636-55	IC M5218AFP	
IC501	8-759-496-10	IC uPD780018AYGF-011-3BA	
IC901	8-759-604-86	IC M5F7807L	
IC902	8-759-604-90	IC M5F7907L	
IC911	8-759-231-58	IC TA7812S	
IC921	8-759-604-38	IC M5F78M10	
IC931	8-759-231-53	IC TA7805S	
IC941	8-759-604-86	IC M5F7807L	
IC951	8-759-635-63	IC M51943BSL	
		< JACK >	
J101	1-774-411-11	JACK, PIN 6P (VIDEO(AUDIO) IN, MD IN, MD/VIDEO (AUDIO) OUT)	
J191	1-774-785-11	JACK, PIN 1P (SUPER WOOFER)	
		< JUMPER RESISTOR >	
JR1	1-216-295-91	SHORT 0	
JR2	1-216-295-91	SHORT 0	
JR4	1-216-295-91	SHORT 0	
JR5	1-216-295-91	SHORT 0	
		< COIL >	
L371	1-412-032-11	INDUCTOR CHIP 100uH	(RX88/RX99:AEP,UK,G)
L372	1-412-032-11	INDUCTOR CHIP 100uH	
L391	1-412-032-11	INDUCTOR CHIP 100uH	
L569	1-412-032-11	INDUCTOR CHIP 100uH	
L570	1-412-032-11	INDUCTOR CHIP 100uH	
L572	1-412-032-11	INDUCTOR CHIP 100uH	
		< FILTER >	
FL131	1-233-289-21	FILTER, EMI (SMD)	
FL501	1-233-289-21	FILTER, EMI (SMD)	
FL502	1-233-289-21	FILTER, EMI (SMD)	
		< TRANSISTOR >	
Q111	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q112	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q113	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q141	8-729-422-57	TRANSISTOR UN4111	
Q142	8-729-900-36	TRANSISTOR DTC124ES	
Q143	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q161	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q162	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q163	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q191	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q331	8-729-118-00	TRANSISTOR 2SB1116-L	
Q332	8-729-900-80	TRANSISTOR DTC114ES	
Q333	8-729-118-00	TRANSISTOR 2SB1116-L	
Q334	8-729-900-80	TRANSISTOR DTC114ES	
Q335	8-729-900-80	TRANSISTOR DTC114ES	
Q336	8-729-116-55	TRANSISTOR 2SB1068	
Q337	8-729-144-44	TRANSISTOR 2SD1513	
Q338	8-729-422-57	TRANSISTOR UN4111	
Q339	8-729-900-80	TRANSISTOR DTC114ES	

MAIN

Ref. No.	Part No.	Description			Remark
Q340	8-729-166-55	TRANSISTOR	2SB1068		
Q341	8-729-144-44	TRANSISTOR	2SD1513		
Q342	8-729-422-57	TRANSISTOR	UN4111		
Q343	8-729-900-80	TRANSISTOR	DTC114ES		
Q411	8-729-141-30	TRANSISTOR	2SC3623A-LK		
Q901	8-729-040-20	TRANSISTOR	RT1P137L-TP		
Q902	8-729-900-36	TRANSISTOR	DTC124ES		
Q903	8-729-040-19	TRANSISTOR	RT1N137L-TP		
Q904	8-729-900-63	TRANSISTOR	DTA124ES		
Q905	8-729-119-76	TRANSISTOR	2SA1175-HFE		
Q911	8-729-141-83	TRANSISTOR	2SB1094-LK		
Q912	8-729-900-36	TRANSISTOR	DTC124ES		
Q913	8-729-119-76	TRANSISTOR	2SA1175-HFE		
Q931	8-729-040-20	TRANSISTOR	RT1P137L-TP		
Q932	8-729-900-36	TRANSISTOR	DTC124ES		
Q933	8-729-040-20	TRANSISTOR	RT1P137L-TP		
Q934	8-729-900-63	TRANSISTOR	DTA124ES		
Q937	8-729-900-36	TRANSISTOR	DTC124ES		
Q951	8-729-119-78	TRANSISTOR	2SC403SP-51		
Q961	8-729-111-29	TRANSISTOR	2SD1616A-K		
Q962	8-729-119-76	TRANSISTOR	2SA1175-HFE		
		< RESISTOR >			
R101	1-216-049-91	RES,CHIP	1K	5%	1/10W
R102	1-216-105-91	RES,CHIP	220K	5%	1/10W
R103	1-216-049-91	RES,CHIP	1K	5%	1/10W
R104	1-216-105-91	RES,CHIP	220K	5%	1/10W
R105	1-216-049-91	RES,CHIP	1K	5%	1/10W
R106	1-216-097-91	RES,CHIP	100K	5%	1/10W
R111	1-216-073-00	METAL CHIP	10K	5%	1/10W
R112	1-216-121-91	RES,CHIP	1M	5%	1/10W
R113	1-216-111-91	RES,CHIP	390K	5%	1/10W
R114	1-216-044-00	METAL CHIP	620	5%	1/10W
R115	1-216-073-00	METAL CHIP	10K	5%	1/10W
R116	1-216-105-91	RES,CHIP	220K	5%	1/10W
R117	1-216-073-00	METAL CHIP	10K	5%	1/10W
R118	1-216-089-91	RES,CHIP	47K	5%	1/10W
R119	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R120	1-216-097-91	RES,CHIP	100K	5%	1/10W
R121	1-216-073-00	METAL CHIP	10K	5%	1/10W
R122	1-216-295-91	SHORT	0		
R123	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R131	1-216-025-91	RES,CHIP	100	5%	1/10W
R132	1-216-025-91	RES,CHIP	100	5%	1/10W
R133	1-216-025-91	RES,CHIP	100	5%	1/10W
R134	1-216-089-91	RES,CHIP	47K	5%	1/10W
R135	1-216-089-91	RES,CHIP	47K	5%	1/10W
R136	1-216-089-91	RES,CHIP	47K	5%	1/10W
R137	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R138	1-216-089-91	RES,CHIP	47K	5%	1/10W
R141	1-216-049-91	RES,CHIP	1K	5%	1/10W
R142	1-216-097-91	RES,CHIP	100K	5%	1/10W
R143	1-216-049-91	RES,CHIP	1K	5%	1/10W
R144	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R151	1-216-049-91	RES,CHIP	1K	5%	1/10W
R152	1-216-105-91	RES,CHIP	220K	5%	1/10W
R153	1-216-049-91	RES,CHIP	1K	5%	1/10W

Ref. No.	Part No.	Description			Remark
R154	1-216-105-91	RES,CHIP	220K	5%	1/10W
R155	1-216-049-91	RES,CHIP	1K	5%	1/10W
R156	1-216-097-91	RES,CHIP	100K	5%	1/10W
R161	1-216-073-00	METAL CHIP	10K	5%	1/10W
R162	1-216-121-91	RES,CHIP	1M	5%	1/10W
R163	1-216-111-91	RES,CHIP	390K	5%	1/10W
R164	1-216-044-00	METAL CHIP	620	5%	1/10W
R165	1-216-073-00	METAL CHIP	10K	5%	1/10W
R166	1-216-097-91	RES,CHIP	100K	5%	1/10W
R167	1-216-073-00	METAL CHIP	10K	5%	1/10W
R168	1-216-089-91	RES,CHIP	47K	5%	1/10W
R169	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R170	1-216-097-91	RES,CHIP	100K	5%	1/10W
R171	1-216-073-00	METAL CHIP	10K	5%	1/10W
R172	1-216-295-91	SHORT	0		
R173	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R191	1-216-089-91	RES,CHIP	47K	5%	1/10W
R192	1-216-089-91	RES,CHIP	47K	5%	1/10W
R193	1-216-089-91	RES,CHIP	47K	5%	1/10W
R194	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R195	1-216-073-00	METAL CHIP	10K	5%	1/10W
R196	1-216-049-91	RES,CHIP	1K	5%	1/10W
R197	1-216-097-91	RES,CHIP	100K	5%	1/10W
R198	1-216-049-91	RES,CHIP	1K	5%	1/10W
R199	1-216-073-00	METAL CHIP	10K	5%	1/10W
R301	1-216-085-00	METAL CHIP	33K	5%	1/10W
R302	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R303	1-216-025-91	RES,CHIP	100	5%	1/10W
R304	1-216-025-91	RES,CHIP	100	5%	1/10W
R305	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R306	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R307	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R308	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R309	1-216-081-00	METAL CHIP	22K	5%	1/10W
R311	1-216-121-91	RES,CHIP	1M	5%	1/10W
R312	1-216-102-00	RES,CHIP	160K	5%	1/10W
R313	1-216-097-91	RES,CHIP	100K	5%	1/10W
R315	1-216-073-00	METAL CHIP	10K	5%	1/10W
R316	1-216-079-00	METAL CHIP	18K	5%	1/10W
R317	1-216-073-00	METAL CHIP	10K	5%	1/10W
R318	1-216-073-00	METAL CHIP	10K	5%	1/10W
R319	1-216-111-91	RES,CHIP	390K	5%	1/10W
R321	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R322	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R324	1-216-094-00	RES,CHIP	75K	5%	1/10W
R325	1-216-089-91	RES,CHIP	47K	5%	1/10W
R326	1-216-089-91	RES,CHIP	47K	5%	1/10W
R327	1-216-089-91	RES,CHIP	47K	5%	1/10W
R328	1-216-094-00	RES,CHIP	75K	5%	1/10W
R329	1-216-049-91	RES,CHIP	1K	5%	1/10W
R330	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R331	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R332	1-216-045-00	METAL CHIP	680	5%	1/10W
R333	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R334	1-216-045-00	METAL CHIP	680	5%	1/10W
R335	1-216-057-00	METAL CHIP	2.2K	5%	1/10W

MAIN **MIC**

Ref. No.	Part No.	Description			Remark
R962	1-216-079-00	METAL CHIP	18K	5%	1/10W
R963	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
		< VARIABLE RESISTOR >			
RV301	1-241-764-11	RES, ADJ, CARBON 10K			
RV351	1-241-764-11	RES, ADJ, CARBON 10K			
		< VIBRATOR >			
X501	1-579-233-11	VIBRATOR, CERAMIC (5MHz)			
X502	1-567-098-41	VIBRATOR, CRYSTAL (32.768kHz)			

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Ref. No.	Part No.	Description			Remark
*	1-668-270-11	MIC BOARD **********			
		< CAPACITOR >			
C752	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C754	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C755	1-126-961-11	ELECT	2.2uF	20%	50V
C756	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C757	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C758	1-126-964-11	ELECT	10uF	20%	50V
C759	1-126-957-11	ELECT	0.22uF	20%	50V
C760	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C761	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C762	1-126-961-11	ELECT	2.2uF	20%	50V
C764	1-126-964-11	ELECT	10uF	20%	50V
C765	1-126-301-11	ELECT	1uF	20%	50V (GRX8:EA3)
C766	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V (GRX8:EA3)
C767	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V (GRX8:EA3)
C768	1-136-495-11	FILM	0.068uF	5%	50V (GRX8:EA3)
C769	1-124-464-11	ELECT	0.22uF	20%	50V (GRX8:EA3)
C770	1-124-464-11	ELECT	0.22uF	20%	50V (GRX8:EA3)
C771	1-124-589-11	ELECT	47uF	20%	16V (GRX8:EA3)
C772	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V (GRX8:EA3)
C773	1-124-589-11	ELECT	47uF	20%	16V (GRX8:EA3)
C774	1-136-495-11	FILM	0.068uF	5%	50V (GRX8:EA3)
C775	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V (GRX8:EA3)
C776	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V (GRX8:EA3)
C777	1-164-492-11	CERAMIC CHIP	0.15uF	10%	16V (GRX8:EA3)
C778	1-126-301-11	ELECT	1uF	20%	50V (GRX8:EA3)
C779	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V (GRX8:EA3)
C780	1-124-257-00	ELECT	2.2uF	20%	50V (GRX8:EA3)

Ref. No.	Part No.	Description			Remark
C782	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
		< DIODE >			
D751	8-719-210-33	DIODE EC10DS2 (GRX8:EA3)			
D752	8-719-210-33	DIODE EC10DS2 (GRX8:EA3)			
D753	8-719-210-33	DIODE EC10DS2 (GRX8:EA3)			
		< FILTER >			
FL751	1-233-289-21	FILTER, CHIP EMI			
		< IC >			
IC750	8-759-636-55	IC M5218AFP			
IC751	8-759-496-41	IC M65850FP-E1 (GRX8:EA3)			
		< JACK >			
J751	1-784-224-11	JACK (LARGE TYPE) (MIX MIC)			
		< COIL >			
L751	1-412-032-11	INDUCTOR CHIP 100uH (GRX8:EA3)			
		< RESISTOR >			
R750	1-216-073-00	METAL CHIP	10K	5%	1/10W
R751	1-216-049-91	RES,CHIP	1K	5%	1/10W
R752	1-216-097-91	RES,CHIP	100K	5%	1/10W
R753	1-216-049-91	RES,CHIP	1K	5%	1/10W
R754	1-216-081-00	METAL CHIP	22K	5%	1/10W
R755	1-216-073-00	METAL CHIP	10K	5%	1/10W
R756	1-216-103-00	METAL CHIP	180K	5%	1/10W
R757	1-216-025-91	RES,CHIP	100	5%	1/10W
R758	1-216-081-00	METAL CHIP	22K	5%	1/10W (GRX8:EA3)
R759	1-216-081-00	METAL CHIP	22K	5%	1/10W (GRX8:EA3)
R760	1-216-081-00	METAL CHIP	22K	5%	1/10W (GRX8:EA3)
R761	1-216-099-00	METAL CHIP	120K	5%	1/10W (GRX8:EA3)
R762	1-216-081-00	METAL CHIP	22K	5%	1/10W (GRX8:EA3)
R763	1-216-081-00	METAL CHIP	22K	5%	1/10W (GRX8:EA3)
R764	1-216-081-00	METAL CHIP	22K	5%	1/10W (GRX8:EA3)
R765	1-216-089-91	RES,CHIP	47K	5%	1/10W (GRX8:EA3)
R766	1-216-077-00	METAL CHIP	15K	5%	1/10W (GRX8:EA3)
R767	1-216-077-00	METAL CHIP	15K	5%	1/10W (GRX8:EA3)
		< VARIABLE RESISTOR >			
RV750	1-225-587-11	RES, VAR 50K (MIC LEVEL)			
RV751	1-225-587-11	RES, VAR 50K (ECHO LEVEL) (GRX8:EA3)			
		<CONNECTOR>			
* W751	1-690-880-31	LEAD (WITH CONNECTOR)			

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Ref. No.	Part No.	Description			Remark
R336	1-216-089-91	RES,CHIP	47K	5%	1/10W
R337	1-216-037-00	METAL CHIP	330	5%	1/10W
R338	1-216-037-00	METAL CHIP	330	5%	1/10W
R339	1-216-089-91	RES,CHIP	47K	5%	1/10W
R340	1-216-089-91	RES,CHIP	47K	5%	1/10W
R341	1-216-037-00	METAL CHIP	330	5%	1/10W
R342	1-216-089-91	RES,CHIP	47K	5%	1/10W
R343	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R344	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R351	1-216-085-00	METAL CHIP	33K	5%	1/10W
R352	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R353	1-216-025-91	RES,CHIP	100	5%	1/10W
R354	1-216-025-91	RES,CHIP	100	5%	1/10W
R355	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R356	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R357	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R358	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R359	1-216-085-00	METAL CHIP	33K	5%	1/10W
R371	1-216-049-91	RES,CHIP	1K	5%	1/10W
R372	1-216-049-91	RES,CHIP	1K	5%	1/10W
R381	1-216-025-91	RES,CHIP	100	5%	1/10W
R382	1-216-025-91	RES,CHIP	100	5%	1/10W
R383	1-216-085-00	METAL CHIP	33K	5%	1/10W
R384	1-216-085-00	METAL CHIP	33K	5%	1/10W
R385	1-216-085-00	METAL CHIP	33K	5%	1/10W
R401	1-216-073-00	METAL CHIP	10K	5%	1/10W
R402	1-216-073-00	METAL CHIP	10K	5%	1/10W
R403	1-216-073-00	METAL CHIP	10K	5%	1/10W
R404	1-216-073-00	METAL CHIP	10K	5%	1/10W
R411	1-216-073-00	METAL CHIP	10K	5%	1/10W
R412	1-216-049-91	METAL CHIP	1K	5%	1/10W
R413	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R414	1-216-073-00	METAL CHIP	10K	5%	1/10W
R416	1-216-073-00	METAL CHIP	10K	5%	1/10W
R417	1-216-073-00	METAL CHIP	10K	5%	1/10W
R418	1-216-073-00	METAL CHIP	10K	5%	1/10W
R419	1-216-097-91	RES,CHIP	100K	5%	1/10W
R420	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R506	1-216-025-91	RES,CHIP	100	5%	1/10W
R507	1-216-025-91	RES,CHIP	100	5%	1/10W
R508	1-216-025-91	RES,CHIP	100	5%	1/10W
R513	1-216-109-00	METAL CHIP	330K	5%	1/10W
R518	1-216-025-91	RES,CHIP	100	5%	1/10W
R521	1-216-025-91	RES,CHIP	100	5%	1/10W (RX88/RX99:AEP,UK,G)
R522	1-216-025-91	RES,CHIP	100	5%	1/10W (RX88/RX99:AEP,UK,G)
R526	1-216-025-91	RES,CHIP	100	5%	1/10W
R527	1-216-025-91	RES,CHIP	100	5%	1/10W
R534	1-216-025-91	RES,CHIP	100	5%	1/10W
R536	1-216-025-91	RES,CHIP	100	5%	1/10W
R547	1-216-041-00	RES,CHIP	470	5%	1/10W
R548	1-216-041-00	RES,CHIP	470	5%	1/10W
R555	1-216-025-91	RES,CHIP	100	5%	1/10W
R556	1-216-025-91	RES,CHIP	100	5%	1/10W
R557	1-216-025-91	RES,CHIP	100	5%	1/10W
R558	1-216-041-00	RES,CHIP	470	5%	1/10W

Ref. No.	Part No.	Description			Remark
R560	1-216-025-91	RES,CHIP	100	5%	1/10W
R561	1-216-025-91	RES,CHIP	100	5%	1/10W
R563	1-216-025-91	RES,CHIP	100	5%	1/10W
R564	1-216-025-91	RES,CHIP	100	5%	1/10W
R565	1-216-025-91	RES,CHIP	100	5%	1/10W
R566	1-216-025-91	RES,CHIP	100	5%	1/10W
R567	1-216-025-91	RES,CHIP	100	5%	1/10W
R568	1-216-025-91	RES,CHIP	100	5%	1/10W
R573	1-216-025-91	RES,CHIP	100	5%	1/10W
R574	1-216-025-91	RES,CHIP	100	5%	1/10W
R575	1-216-025-91	RES,CHIP	100	5%	1/10W
R576	1-216-025-91	RES,CHIP	100	5%	1/10W
R578	1-216-025-91	RES,CHIP	100	5%	1/10W
R579	1-216-025-91	RES,CHIP	100	5%	1/10W
R580	1-216-025-91	RES,CHIP	100	5%	1/10W
R581	1-216-025-91	RES,CHIP	100	5%	1/10W
R595	1-216-025-91	RES,CHIP	100	5%	1/10W
R596	1-216-025-91	RES,CHIP	100	5%	1/10W
R597	1-216-025-91	RES,CHIP	100	5%	1/10W
R598	1-216-025-91	RES,CHIP	100	5%	1/10W
R705	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R729	1-216-045-00	METAL CHIP	680	5%	1/10W (GRX8:EA4,TH)
R729	1-216-065-91	RES,CHIP	4.7K	5%	1/10W (GRX8:E2,MX/R800)
R729	1-216-069-00	METAL CHIP	6.8K	5%	1/10W (GRX8:AUS/RX88/RX99:AEP,UK,G)
R729	1-216-085-00	METAL CHIP	33K	5%	1/10W (RX99:EE,CIS)
R729	1-216-295-91	SHORT	0		(GRX8:E3,SP,MY,HK,TW,EA3)
R730	1-216-061-00	METAL CHIP	3.3K	5%	1/10W (RX88/RX99:AEP,UK,G)
R730	1-216-065-91	RES,CHIP	4.7K	5%	1/10W (GRX8:AUS)
R730	1-216-069-00	METAL CHIP	6.8K	5%	1/10W (GRX8:E2,MX/R800/RX99:EE,CIS)
R730	1-216-077-00	METAL CHIP	15K	5%	1/10W (GRX8:EA4,TH)
R731	1-216-073-00	METAL CHIP	10K	5%	1/10W
R769	1-216-073-00	METAL CHIP	10K	5%	1/10W
R770	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R778	1-216-089-91	RES,CHIP	47K	5%	1/10W
R779	1-216-089-91	RES,CHIP	47K	5%	1/10W
R780	1-216-089-91	RES,CHIP	47K	5%	1/10W
R781	1-216-089-91	RES,CHIP	47K	5%	1/10W
R800	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R901	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R902	1-216-081-00	METAL CHIP	22K	5%	1/10W
R911	1-216-089-91	RES,CHIP	47K	5%	1/10W
R912	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R931	1-216-049-91	RES,CHIP	1K	5%	1/10W
R951	1-216-049-91	RES,CHIP	1K	5%	1/10W
R952	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R953	1-216-025-91	RES,CHIP	100	5%	1/10W
R954	1-216-089-91	RES,CHIP	47K	5%	1/10W
R955	1-216-089-91	RES,CHIP	47K	5%	1/10W
R956	1-216-073-00	METAL CHIP	10K	5%	1/10W
R961	1-216-057-00	METAL CHIP	2.2K	5%	1/10W

Ref. No.	Part No.	Description				Remark
*	1-658-577-11	MOTOR (TURN) BOARD ******************				
		< CAPACITOR >				
C701	1-162-306-11	CERAMIC	0.01uF	20%	16V	
C702	1-126-964-11	ELECT	10uF	20%	50V	
C705	1-162-306-11	CERAMIC	0.01uF	20%	16V	
		< CONNECTOR >				
CN703	1-750-413-11	CONNECTOR, FFC/FPC 8P				
CN704	1-506-469-11	PIN, CONNECTOR 4P				
		< DIODE >				
D701	8-719-109-69	DIODE RD3.6ES-B2				
		< IC >				
IC701	8-759-633-65	IC M54641L				
		< RESISTOR >				
R706	1-249-411-11	CARBON	330	5%	1/4W	
R707	1-249-401-11	CARBON	47	5%	1/4W	F

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Ref. No.	Part No.	Description				Remark
*	1-658-578-11	MOTOR (SLIDE) BOARD ******************				
		< CAPACITOR >				
C801	1-162-306-11	CERAMIC	0.01uF	20%	16V	
C804	1-162-306-11	CERAMIC	0.01uF	20%	16V	
C805	1-126-964-11	ELECT	10uF	20%	50V	
		< CONNECTOR >				
* CN801	1-568-947-11	PIN, CONNECTOR 9P				
		< DIODE >				
D801	8-719-010-43	DIODE UZ-5.6BSC				
D804	8-719-911-19	DIODE 1SS119				
D805	8-719-911-19	DIODE 1SS119				
		< IC >				
IC801	8-759-274-09	IC BA6286N				
		< RESISTOR >				
R801	1-249-401-11	CARBON	47	5%	1/4W	F
		< SWITCH >				
S801	1-762-527-11	SWITCH, ROTARY				

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Ref. No.	Part No.	Description			Remark
*	A-4407-257-A	PANEL BOARD, COMPLETE ******************** (GRX8/R800/RX99:EE,CIS)			
*	A-4407-308-A	PANEL BOARD, COMPLETE (RX88) ********************			
*	A-4407-720-A	PANEL BOARD, COMPLETE (RX99:AEP,UK,G) ********************			
*	4-932-810-31	CUSHION (FL)			
*	4-996-796-01	HOLDER, FL TUBE			
		< CAPACITOR >			
C600	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C601	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C602	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C603	1-124-589-11	ELECT	47uF	20%	16V
C604	1-124-259-11	ELECT	4.7uF	20%	50V
C605	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C606	1-126-160-11	ELECT	1uF	20%	50V
C607	1-126-160-11	ELECT	1uF	20%	50V
C608	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C609	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C610	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C611	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C612	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C613	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C614	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C615	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C616	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C617	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C618	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C619	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C620	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C621	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C625	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C626	1-124-589-11	ELECT	47uF	20%	16V
C631	1-126-157-11	ELECT	10uF	20%	16V
C632	1-126-157-11	ELECT	10uF	20%	16V
C633	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V
C634	1-126-157-11	ELECT	10uF	20%	16V
C652	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C801	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C802	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C803	1-124-589-11	ELECT	47uF	20%	16V
C804	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C805	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C806	1-126-963-11	ELECT	4.7uF	20%	50V
C807	1-163-017-00	CERAMIC CHIP	4700PF	10%	50V
C808	1-163-017-00	CERAMIC CHIP	4700PF	10%	50V
C809	1-126-967-11	ELECT	47uF	20%	50V
C851	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C852	1-126-935-11	ELECT	470uF	20%	6.3V
C853	1-126-963-11	ELECT	4.7uF	20%	50V
		< CONNECTOR >			
* CN601	1-568-832-11	SOCKET, CONNECTOR 13P			

PANEL

Ref. No.	Part No.	Description	Remark
CN602	1-764-698-11	SOCKET, CONNECTOR 19P	
* CN603	1-568-943-11	PIN, CONNECTOR 5P	
CN604	1-506-486-11	PIN, CONNECTOR 7P	
		< DIODE >	
D601	8-719-058-24	DIODE RB501V-40TE-17	
D602	8-719-210-33	DIODE EC10DS2	
D603	8-719-210-33	DIODE EC10DS2	
D620	8-719-063-93	DIODE SLR325VC-N-T32 (EFFECT)	
D621	8-719-056-13	DIODE SML79423C-TP15 (CD ▶❚❚)	
D622	8-719-058-03	DIODE SEL5423E-TP15 (◀ TAPE B)	
D623	8-719-058-03	DIODE SEL5423E-TP15 (▶ TAPE B)	
D624	8-719-058-03	DIODE SEL5423E-TP15 (◀ TAPE A)	
D625	8-719-058-03	DIODE SEL5423E-TP15 (▶ TAPE A)	
D630	8-719-057-97	DIODE SEL5923A-TP15 (SONIC FORMATION) GRX8/RX99/R800/(MUTING)RX88	
D651	8-719-063-93	DIODE SLR325VC-N-T32 (● REC)	
D652	8-719-057-97	DIODE SEL5923A-TP15 (❚❚ PAUSE)	
D804	8-719-988-62	DIODE 1SS355	
D805	8-719-988-62	DIODE 1SS355	
D806	8-719-988-62	DIODE 1SS355	
D807	8-719-988-62	DIODE 1SS355	
		< FILTER >	
FL601	1-233-289-21	FILTER, CHIP EMI	
FL602	1-233-289-21	FILTER, CHIP EMI	
FL801	1-233-289-21	FILTER, CHIP EMI	
FL802	1-233-289-21	FILTER, CHIP EMI	
FL851	1-233-289-21	FILTER, CHIP EMI	
		< IC >	
IC601	8-759-496-12	IC TMP87CM74AF-6671	
IC602	8-759-332-18	IC GP1U27XB	
IC603	8-759-495-25	IC BA3833FP	
IC801	8-759-496-11	IC TMP87CH48DF-4825	
IC851	8-759-498-98	IC MSM6653A-GS-K	
		< JUMPER RESISTOR >	
JW903	1-216-296-91	SHORT 0	
JW904	1-216-296-91	SHORT 0	
JW905	1-216-296-91	SHORT 0	
JW906	1-216-295-91	SHORT 0	
JW907	1-216-296-91	SHORT 0	
JW908	1-216-296-91	SHORT 0	
JW909	1-216-296-91	SHORT 0	
JW911	1-216-296-91	SHORT 0	
JW912	1-216-295-91	SHORT 0	
JW914	1-216-296-91	SHORT 0	
JW915	1-216-296-91	SHORT 0	
JW916	1-216-296-91	SHORT 0	
JW919	1-216-295-91	SHORT 0	
JW920	1-216-295-91	SHORT 0	
JW921	1-216-295-91	SHORT 0	
JW922	1-216-295-91	SHORT 0	
JW923	1-216-296-91	SHORT 0	
JW924	1-216-296-91	SHORT 0	
JW925	1-216-295-91	SHORT 0	
JW926	1-216-295-91	SHORT 0	

Ref. No.	Part No.	Description				Remark
JW927	1-216-295-91	SHORT 0				
JW928	1-216-295-91	SHORT 0				
		< COIL >				
L601	1-412-031-11	INDUCTOR CHIP 47uH				
L602	1-412-031-11	INDUCTOR CHIP 47uH				
L851	1-412-031-11	INDUCTOR CHIP 47uH				
		< FLUORECENT INDICATOR >				
ND601	1-517-731-21	INDICATOR TUBE, FLUORESCENT				
		< TRANSISTOR >				
Q601	8-729-118-00	TRANSISTOR 2SB1116-L				
Q602	8-729-118-00	TRANSISTOR 2SB1116-L				
Q603	8-729-120-28	TRANSISTOR 2SC1623-L5L6				
Q607	8-729-027-60	TRANSISTOR DTC144TKA-T146				
Q608	8-729-027-60	TRANSISTOR DTC144TKA-T146				
Q609	8-729-027-60	TRANSISTOR DTC144TKA-T146				
Q610	8-729-027-60	TRANSISTOR DTC144TKA-T146				
Q618	8-729-027-60	TRANSISTOR DTC144TKA-T146				
Q701	8-729-120-28	TRANSISTOR 2SC1623-L5L6				
Q702	8-729-120-28	TRANSISTOR 2SC1623-L5L6				
Q851	8-729-027-23	TRANSISTOR DTA114EKA-T146				
Q958	8-729-900-53	TRANSISTOR DTC114EK				
Q959	8-729-027-23	TRANSISTOR DTA114EKA-T146				
Q960	8-729-027-23	TRANSISTOR DTA114EKA-T146				
		< RESISTOR >				
R601	1-216-121-91	RES,CHIP	1M	5%	1/10W	
R602	1-216-025-91	RES,CHIP	100	5%	1/10W	
R604	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R605	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R606	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R607	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R608	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R609	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R610	1-216-025-91	RES,CHIP	100	5%	1/10W	
R611	1-216-025-91	RES,CHIP	100	5%	1/10W	
R612	1-216-017-91	RES,CHIP	47	5%	1/10W	
R613	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	(RX88)
R613	1-216-065-91	RES,CHIP	4.7K	5%	1/10W	(GRX8/R800/RX99)
R614	1-216-069-00	METAL CHIP	6.8K	5%	1/10W	(GRX8/R800/RX99)
R614	1-216-073-00	METAL CHIP	10K	5%	1/10W	(RX88)
R616	1-216-097-91	RES,CHIP	100K	5%	1/10W	
R618	1-216-089-91	RES,CHIP	47K	5%	1/10W	
R619	1-216-089-91	RES,CHIP	47K	5%	1/10W	
R621	1-216-069-00	METAL CHIP	6.8K	5%	1/10W	
R622	1-216-033-00	METAL CHIP	220	5%	1/10W	
R623	1-216-035-00	METAL CHIP	270	5%	1/10W	
R624	1-216-039-00	METAL CHIP	390	5%	1/10W	
R625	1-216-041-00	METAL CHIP	470	5%	1/10W	
R626	1-216-045-00	METAL CHIP	680	5%	1/10W	
R627	1-216-047-91	RES,CHIP	820	5%	1/10W	

Ref. No.	Part No.	Description			Remark
R628	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R629	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R630	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R631	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R632	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R633	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R636	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R649	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R650	1-216-033-00	METAL CHIP	220	5%	1/10W
R651	1-216-035-00	METAL CHIP	270	5%	1/10W
R652	1-216-039-00	METAL CHIP	390	5%	1/10W
R653	1-216-041-00	METAL CHIP	470	5%	1/10W
R654	1-216-045-00	METAL CHIP	680	5%	1/10W
R655	1-216-047-91	RES,CHIP	820	5%	1/10W
R661	1-216-089-91	RES,CHIP	47K	5%	1/10W
R662	1-216-089-91	RES,CHIP	47K	5%	1/10W
R663	1-216-049-91	RES,CHIP	1K	5%	1/10W
R664	1-216-049-91	RES,CHIP	1K	5%	1/10W
R665	1-216-089-91	RES,CHIP	47K	5%	1/10W
R673	1-216-037-00	METAL CHIP	330	5%	1/10W
R674	1-216-027-00	METAL CHIP	120	5%	1/10W
R675	1-216-027-00	METAL CHIP	120	5%	1/10W
R676	1-216-027-00	METAL CHIP	120	5%	1/10W
R677	1-216-027-00	METAL CHIP	120	5%	1/10W
R678	1-216-027-00	METAL CHIP	120	5%	1/10W
R679	1-216-027-00	METAL CHIP	120	5%	1/10W
R701	1-216-073-00	METAL CHIP	10K	5%	1/10W
R702	1-216-073-00	METAL CHIP	10K	5%	1/10W
R703	1-216-097-91	RES,CHIP	100K	5%	1/10W
R704	1-216-097-91	RES,CHIP	100K	5%	1/10W
R721	1-216-029-00	METAL CHIP	150	5%	1/10W
R723	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R724	1-216-033-00	METAL CHIP	220	5%	1/10W
R725	1-216-035-00	METAL CHIP	270	5%	1/10W
R726	1-216-039-00	METAL CHIP	390	5%	1/10W
R727	1-216-041-00	METAL CHIP	470	5%	1/10W
R728	1-216-045-00	METAL CHIP	680	5%	1/10W
R729	1-216-047-91	RES,CHIP	820	5%	1/10W
R730	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R731	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R742	1-216-027-00	METAL CHIP	120	5%	1/10W
R743	1-216-027-00	METAL CHIP	120	5%	1/10W
R801	1-216-121-91	RES,CHIP	1M	5%	1/10W
R802	1-216-025-91	RES,CHIP	100	5%	1/10W
R803	1-216-025-91	RES,CHIP	100	5%	1/10W
R804	1-216-025-91	RES,CHIP	100	5%	1/10W
R805	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R806	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R807	1-216-085-00	METAL CHIP	33K	5%	1/10W
R808	1-216-113-00	METAL CHIP	470K	5%	1/10W
R809	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R810	1-216-089-91	RES,CHIP	47K	5%	1/10W
R851	1-216-097-91	RES,CHIP	100K	5%	1/10W
R852	1-216-025-91	RES,CHIP	100	5%	1/10W
R954	1-216-097-91	RES,CHIP	100K	5%	1/10W
R955	1-216-097-91	RES,CHIP	100K	5%	1/10W

Ref. No.	Part No.	Description	Remark
		< SWITCH >	
S604	1-762-875-21	SWITCH, KEYBOARD	
		(SONIC FORMATION):GRX8/R800/RX99/(MUTING):RX88	
S605	1-762-875-21	SWITCH, KEYBOARD (SURROUND)	
S606	1-762-875-21	SWITCH, KEYBOARD (KARAOKE PON/MPX)	
S607	1-762-875-21	SWITCH, KEYBOARD (■)	
S608	1-762-875-21	SWITCH, KEYBOARD (P FILE MEMORY)	
S609	1-762-875-21	SWITCH, KEYBOARD (GEQ CONTROL)	
S610	1-762-875-21	SWITCH, KEYBOARD (FILE SELECT)	
S611	1-762-875-21	SWITCH, KEYBOARD (EFFECT)	
S612	1-762-875-21	SWITCH, KEYBOARD (DEMO)	
S613	1-762-875-21	SWITCH, KEYBOARD (TIMER SELECT)	
S614	1-762-875-21	SWITCH, KEYBOARD (FUNCTION)	
S615	1-762-875-21	SWITCH, KEYBOARD (CLOCK/TIMER SET)	
S616	1-762-875-21	SWITCH, KEYBOARD (DISPLAY)	
S631	1-762-875-21	SWITCH, KEYBOARD (TUNER/BAND)	
S632	1-762-875-21	SWITCH, KEYBOARD (CD ▶II)	
S633	1-762-875-21	SWITCH, KEYBOARD (◀ TAPE B)	
S634	1-762-875-21	SWITCH, KEYBOARD (▶ TAPE B)	
S635	1-762-875-21	SWITCH, KEYBOARD (◀ TAPE A)	
S636	1-762-875-21	SWITCH, KEYBOARD (▶ TAPE A)	
S652	1-762-875-21	SWITCH, KEYBOARD	
		(PLAY MODE, DOLBY NR, TUNER MEMORY)	
S653	1-762-875-21	SWITCH, KEYBOARD (EDIT, DIRECTION)	
S654	1-762-875-21	SWITCH, KEYBOARD (REPEAT, STEREO/MONO)	
S655	1-762-875-21	SWITCH, KEYBOARD (PTY)	
			(RX88/RX99:AEP,UK,G)
S656	1-762-875-21	SWITCH, KEYBOARD (● REC)	
S657	1-762-875-21	SWITCH, KEYBOARD (II PAUSE)	
S658	1-762-875-21	SWITCH, KEYBOARD (HI-DUB)	
S659	1-762-875-21	SWITCH, KEYBOARD (CD SYNC)	
		< VIBRATOR >	
X501	1-579-125-11	VIBRATOR, CERAMIC (8MHz)	
X601	1-579-125-11	VIBRATOR, CERAMIC (8MHz)	
X851	1-767-353-11	VIBRATOR, CERAMIC (4.09MHz)	

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Ref. No.	Part No.	Description			Remark
*	A-4407-260-A	POWER BOARD, COMPLETE (GRX8/R800)			
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*	A-4407-300-A	POWER BOARD, COMPLETE (RX88)			
		**********************			
*	A-4407-722-A	POWER BOARD, COMPLETE (RX99)			
		**********************			
		< CAPACITOR >			
C101	1-130-781-00	FILM	0.22uF	10%	100V
C102	1-130-781-00	FILM	0.22uF	10%	100V
C103	1-164-159-21	CERAMIC	0.1uF		50V
C104	1-164-159-21	CERAMIC	0.1uF		50V
C105	1-126-943-11	ELECT	2200uF	20%	25V
C106	1-162-294-31	CERAMIC	0.001uF	10%	50V
C107	1-162-294-31	CERAMIC	0.001uF	10%	50V
C111	1-126-968-11	ELECT	100uF	20%	50V
C112	1-126-968-11	ELECT	100uF	20%	50V

POWER

Ref. No.	Part No.	Description			Remark
C113	1-162-294-31	CERAMIC	0.001uF	10%	50V
C114	1-126-967-11	ELECT	47uF	20%	50V
C151	1-128-493-21	ELECT	4700uF	20%	71V
C152	1-128-493-21	ELECT	4700uF	20%	71V
C201	1-128-582-11	ELECT	10uF	20%	100V
C202	1-162-292-31	CERAMIC	680PF	10%	50V
C203	1-162-286-21	CERAMIC	220PF	10%	50V
C204	1-126-967-11	ELECT	47uF	20%	50V
C205	1-126-967-11	ELECT	47uF	20%	50V
C206	1-128-560-11	ELECT	22uF	20%	100V
C207	1-130-493-00	MYLAR	0.068uF	5%	50V
C208	1-130-493-00	MYLAR	0.068uF	5%	50V
C221	1-162-284-31	CERAMIC	150PF	10%	50V
C222	1-162-284-31	CERAMIC	150PF	10%	50V
C223	1-164-159-21	CERAMIC	0.1uF		50V
C224	1-128-560-11	ELECT	22uF	20%	100V
C225	1-161-494-00	CERAMIC	0.022uF		25V (RX88/RX99)
C228	1-162-284-31	CERAMIC	150PF	10%	50V
C251	1-128-582-11	ELECT	10uF	20%	100V
C252	1-162-292-31	CERAMIC	680PF	10%	50V
C253	1-162-286-21	CERAMIC	220PF	10%	50V
C254	1-126-967-11	ELECT	47uF	20%	50V
C255	1-126-967-11	ELECT	47uF	20%	50V
C256	1-128-560-11	ELECT	22uF	20%	100V
C257	1-130-493-00	MYLAR	0.068uF	5%	50V
C258	1-130-493-00	MYLAR	0.068uF	5%	50V
C301	1-126-923-11	ELECT	220uF	20%	10V
C302	1-126-923-11	ELECT	220uF	20%	10V
C311	1-126-959-11	ELECT	0.47uF	20%	50V
C331	1-126-924-11	ELECT	330uF	20%	10V
C401	1-126-963-11	ELECT	4.7uF	20%	50V
C402	1-164-159-21	CERAMIC	0.1uF		50V (RX88/RX99)
C403	1-164-159-21	CERAMIC	0.1uF		50V (RX88/RX99)
C404	1-164-159-21	CERAMIC	0.1uF		50V (RX88/RX99)
C405	1-164-159-21	CERAMIC	0.1uF		50V (RX88/RX99)
C408	1-164-159-21	CERAMIC	0.1uF		50V (RX88/RX99)
C409	1-164-159-21	CERAMIC	0.1uF		50V (RX88/RX99)
C410	1-164-159-21	CERAMIC	0.1uF		50V (RX88/RX99)
C411	1-164-159-21	CERAMIC	0.1uF		50V (RX88/RX99)
C412	1-161-494-00	CERAMIC	0.022uF		25V
C413	1-161-494-00	CERAMIC	0.022uF		25V
C414	1-161-494-00	CERAMIC	0.022uF		25V
C415	1-161-494-00	CERAMIC	0.022uF		25V
		< CONNECTOR >			
CN201	1-778-981-11	CONNECTOR, BOARD TO BOARD 13P			
CN202	1-770-724-11	CONNECTOR, BOARD TO BOARD 9P			
* CN203	1-573-128-11	PIN, CONNECTOR 5P			

Ref. No.	Part No.	Description	Remark
		< DIODE >	
D101	8-719-510-68	DIODE D5SBA20F01	
D102	8-719-028-23	DIODE D3SBA20-4101	
D103	8-719-200-82	DIODE 11ES2	
D104	8-719-200-82	DIODE 11ES2	
D105	8-719-991-33	DIODE 1SS133T-77 (RX88/RX99)	
D111	8-719-200-82	DIODE 11ES2	
D112	8-719-200-82	DIODE 11ES2	
D113	8-719-002-60	DIODE UZL-33L	
D114	8-719-010-43	DIODE UZ-5.6BSC	
D201	8-719-991-33	DIODE 1SS133T-77	
D251	8-719-991-33	DIODE 1SS133T-77	
D301	8-719-991-33	DIODE 1SS133T-77	
D311	8-719-991-33	DIODE 1SS133T-77	
D321	8-719-991-33	DIODE 1SS133T-77	
D331	8-719-991-33	DIODE 1SS133T-77	
D332	8-719-991-33	DIODE 1SS133T-77	
D401	8-719-991-33	DIODE 1SS133T-77	
D402	8-719-911-19	DIODE 1SS119 (GRX8/R800/RX99)	
D404	8-719-911-19	DIODE 1SS119 (GRX8/R800/RX99)	
D405	8-719-991-33	DIODE 1SS133T-77	
D406	8-719-991-33	DIODE 1SS133T-77	
D407	8-719-911-19	DIODE 1SS119	
D408	8-719-911-19	DIODE 1SS119	
		< GROUND PLATE >	
* EP101	1-537-738-21	TERMINAL, EARTH	
* EP201	1-537-738-21	TERMINAL, EARTH	
		< IC >	
IC201	8-749-921-68	IC STK-4231MK2 (GRX8/R800)	
IC201	8-749-922-65	IC STK-4221MK2 (RX88/RX99)	
		< COIL >	
L401	1-420-872-00	COIL, AIR-CORE (RX88/RX99)	
L402	1-420-872-00	COIL, AIR-CORE (RX88/RX99)	
L403	1-420-872-00	COIL, AIR-CORE (RX88/RX99)	
L404	1-420-872-00	COIL, AIR-CORE (RX88/RX99)	
		< TRANSISTOR >	
Q101	8-729-119-78	TRANSISTOR 2SC403SP-51 (RX88/RX99)	
Q111	8-729-118-01	TRANSISTOR 2SB1116	
Q201	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA	
Q251	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA	
Q301	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q302	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q303	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q304	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q305	8-729-900-36	TRANSISTOR DTC124ES	
Q306	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q307	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q321	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q322	8-729-900-36	TRANSISTOR DTC124ES	
Q401	8-729-040-20	TRANSISTOR RT1P137L-TP	
Q402	8-729-900-80	TRANSISTOR DTC114ES	
Q403	8-729-040-20	TRANSISTOR RT1P137L-TP (GRX8/R800/RX99)	

TCB TRANSFORMER

Ref. No.	Part No.	Description			Remark
R32	1-249-425-11	CARBON	4.7K	5%	1/4W F
R33	1-249-425-11	CARBON	4.7K	5%	1/4W F
R34	1-249-425-11	CARBON	4.7K	5%	1/10W
R35	1-216-214-00	METAL CHIP	4.7K	5%	1/8W
R36	1-216-025-91	METAL CHIP	100	5%	1/10W
R37	1-216-073-00	METAL CHIP	10K	5%	1/10W
R38	1-216-089-91	METAL CHIP	47K	5%	1/10W
R39	1-249-429-11	CARBON	10K	5%	1/4W
R41	1-216-013-00	METAL CHIP	33	5%	1/10W
R42	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R43	1-216-037-00	METAL CHIP	330	5%	1/10W
R44	1-216-001-00	METAL CHIP	10	5%	1/10W
R45	1-247-843-11	CARBON	3.3K	5%	1/4W F
R46	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R47	1-216-097-91	METAL CHIP	100K	5%	1/10W
R48	1-249-417-11	CARBON	1K	5%	1/4W F
R49	1-216-049-91	METAL CHIP	1.0K	5%	1/10W
R50	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R51	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R52	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R53	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R54	1-216-073-00	METAL CHIP	10K	5%	1/10W
R55	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R57	1-216-162-00	METAL CHIP	33	5%	1/8W
R58	1-216-013-00	METAL CHIP	33	5%	1/10W
R91	1-216-295-91	METAL CHIP	0	5%	1/10W
R92	1-216-073-00	METAL CHIP	10K	5%	1/10W
R1751	1-247-807-31	CARBON	100	5%	1/4W
R1752	1-216-073-00	METAL CHIP	10K	5%	1/10W
R1753	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R1754	1-216-097-91	METAL CHIP	100K	5%	1/10W
R1755	1-216-097-91	METAL CHIP	100K	5%	1/10W
R1756	1-249-401-11	CARBON	47	5%	1/4W F
R1757	1-216-295-91	METAL CHIP	0	5%	1/10W
		< VARIABLE RESISTOR >			
RV41	1-238-600-11	RES, ADJ, CARBON 10K			
RV42	1-238-600-11	RES, ADJ, CARBON 10K			
		< TERMINAL >			
TM1	1-537-488-11	TERMINAL BOARD (ANT) (ANTENNA)			
		< VIBRATOR >			
X21	1-760-549-11	VIBRATOR, CRYSTAL (4.5MHz)			
X41	1-767-825-21	FILTER, CERAMIC (10.7MHz)			
X42	1-527-981-00	FILTER, CERAMIC (450KHz)			
X1751	1-579-900-21	VIBRATOR, CRYSTAL (4.332MHz)			

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*	1-668-274-11	TRANSFORMER BOARD ****************	
		< CONNECTOR >	
* CN501	1-564-527-11	PLUG, CONNECTOR 12P	
CN502	1-774-108-11	PIN, CONNECTOR (PC BOARD) 2P	

Ref. No.	Part No.	Description			Remark
		<FUSE>			
⚠F501	1-532-505-31	FUSE T5AL/250V (E2,E3,SP,MY,HK,TW,EA3,AR)			
⚠F504	1-532-506-31	FUSE T6.3A/250V			
⚠F505	1-532-506-31	FUSE T6.3A/250V			
		< FUSE HOLDER >			
FH501	1-533-233-21	HOLDER, FUSE (E2,E3,SP,MY,HK,TW,EA3,AR)			
FH502	1-533-233-21	HOLDER, FUSE (E2,E3,SP,MY,HK,TW,EA3,AR)			
FH507	1-533-233-21	HOLDER, FUSE			
FH508	1-533-233-21	HOLDER, FUSE			
FH509	1-533-233-21	HOLDER, FUSE			
FH510	1-533-233-21	HOLDER, FUSE			
		< RESISTOR >			
⚠R501	1-219-120-11	FUSIBLE	0.15	5%	1/4W F
⚠R502	1-219-120-11	FUSIBLE	0.15	5%	1/4W F
⚠R503	1-219-120-11	FUSIBLE	0.15	5%	1/4W F
⚠R504	1-219-120-11	FUSIBLE	0.15	5%	1/4W F
		< SWITCH >			
⚠S501	1-771-291-11	SELECTOR, VOLTAGE (VOLTAGE SELECTOR) (GRX8:E2,E3,SP,MY,IA,HK,TW,EA3/R800:AR)			
		< TRANSFORMER >			
⚠T501	1-431-708-11	TRANSFORMER, POWER (AEP,UK,G,EE,CIS,TH)			
⚠T501	1-431-709-11	TRANSFORMER, POWER (E2,E3,SP,MY,MX,HK,EA3,EA4,TW,AUS,AR)			

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		MISCELLANEOUS ***************	
6	1-233-545-11	ENCAPSULATED COMPONENT (E2,MX,EA4,TH,AUS,AR)	
6	1-233-546-11	ENCAPSULATED COMPONENT (E3,SP,MY,HK,TW,EA3)	
8	1-773-009-11	WIRE (FLAT TYPE)(15 CORE)(150mm) (AEP,UK,G,EE,CIS,E3,SP,MY,HK,TW,EA3)	
8	1-769-977-11	WIRE (FLAT TYPE)(13 CORE)(150mm) (EA,MX,EA4,TH,AUS,AR)	
54	1-773-041-11	WIRE (FLAT TYPE) (17 CORE)	
⚠58	1-569-007-11	ADAPTOR, CONVERSION 2P (E3)	
⚠58	1-569-008-11	ADAPTOR, CONVERSION 2P (SP,MY,EA3)	
⚠58	1-770-019-11	ADAPTOR, CONVERSION PLUG3P (UK,HK)	
⚠59	1-558-943-41	CORD, POWER (E2,E3,MX)	
⚠59	1-575-651-21	CORD, POWER (AEP,UK,G,EE,CIS,SP,MY,HK,TW,EA3,EA4,AR)	
⚠59	1-696-845-31	CORD, POWER (AUS)	
⚠59	1-751-326-21	CORD, POWER (TH)	
60	1-773-011-11	WIRE (FLAT TYPE)(15 CORE)(170mm)	
61	1-773-112-11	WIRE (FLAT TYPE)(19 CORE)(140mm)	
121	1-769-974-11	WIRE (FLAT TYPE) (13 CORE)	
130	1-773-109-11	WIRE (FLAT TYPE)(19 CORE)(110mm)	
257	1-452-879-11	MAGNET (CDM38L-5BD29AL)	
257	1-452-925-21	MAGNET ASSY (CDM38LH-5BD29AL)	
258	1-776-042-11	WIRE (FLAT TYPE) (8CORE)	
HP101	A-2056-681-A	DECK (A) ASSY, HEAD (230AWR1)	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description			Remark
C68	1-163-031-11	CERAMIC	0.01uF		50V
C69	1-126-967-11	ELECT	47uF	20%	16V
C71	1-162-306-11	CERAMIC	0.01uF	30%	16V
C72	1-126-967-11	ELECT	47uF	20%	16V
C73	1-163-031-11	CERAMIC	0.01uF		50V
C74	1-163-031-11	CERAMIC	0.01uF		50V
C120	1-163-105-00	CERAMIC CHIP	33PF	5%	50V
C1751	1-164-159-21	CERAMIC	0.1uF		50V
C1752	1-126-967-11	ELECT	47uF	20%	16V
C1753	1-126-964-11	ELECT	10uF	20%	50V
C1754	1-162-291-31	CERAMIC	560PF	10%	50V
C1755	1-126-964-11	ELECT	10uF	20%	50V
C1756	1-126-961-11	ELECT	2.2uF	20%	50V
C1757	1-162-288-31	CERAMIC	330PF	10%	50V
C1758	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C1759	1-163-135-00	CERAMIC CHIP	560PF	5%	50V
C1760	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C1761	1-163-245-11	CERAMIC CHIP	56PF	5%	50V
C1762	1-163-245-11	CERAMIC CHIP	56PF	5%	50V
C1763	1-126-961-11	ELECT	2.2uF	20%	50V
		< FILTER >			
CF1	1-579-374-71	FILTER, CERAMIC			
CF2	1-760-393-11	FILTER, CERAMIC			
CF3	1-760-393-11	FILTER, CERAMIC			
		< CONNECTOR >			
* CN1	1-568-834-11	SOCKET, CONNECTOR 15P			
		< DIODE >			
D21	8-719-976-99	DIODE	UDZ-TE-17-5.1B		
D41	8-719-016-74	DIODE	1SS352-TPH3		
D42	8-719-991-33	DIODE	1SS133T-77		
D1751	8-719-016-74	DIODE	1SS352-TPH3		
		< FRONT-END >			
FE1	1-693-357-11	FRONT END (4 GANG)			
FE2	1-233-514-11	ENCAPSULATED COMPONENT			
		< IC >			
IC21	8-759-288-54	IC	LC72130		
IC41	8-759-495-82	IC	LA1838		
IC1751	8-759-634-51	IC	M5218AP		
IC1752	8-759-450-86	IC	BU1922		
		< IFT >			
IFT41	1-409-636-11	TRANSFORMER, IF (CERAMIC FILTER)			
		< JUMPER RESISTOR >			
JR2	1-216-295-91	METAL CHIP	0	5%	1/10W
JR6	1-216-295-91	METAL CHIP	0	5%	1/10W
JR8	1-216-295-91	METAL CHIP	0	5%	1/10W
JR9	1-216-295-91	METAL CHIP	0	5%	1/10W
JR12	1-216-296-91	METAL CHIP	0	5%	1/8W
JR46	1-216-296-91	METAL CHIP	0	5%	1/8W
JR47	1-216-295-11	METAL CHIP	0	5%	1/10W

Ref. No.	Part No.	Description			Remark	
JR48	1-216-295-11	METAL CHIP	0	5%	1/10W	
JR49	1-216-296-11	METAL CHIP	0	5%	1/8W	
JR51	1-216-295-11	METAL CHIP	0	5%	1/10W	
JR52	1-216-295-11	METAL CHIP	0	5%	1/10W	
JR53	1-216-296-11	METAL CHIP	0	5%	1/8W	
JR54	1-216-295-11	METAL CHIP	0	5%	1/10W	
		< COIL >				
L2	1-414-142-11	MICRO INDUCTOR		1uH		
L3	1-410-521-11	MICRO INDUCTOR		100uH		
L4	1-410-515-11	INDUCTOR		33uH		
L41	1-407-500-00	MICRO INDUCTOR		4.7mH		
L1751	1-410-521-11	MICRO INDUCTOR		100uH		
		< FILTER >				
LPF41	1-239-845-11	FILTER, LOW PASS				
LPF42	1-239-845-11	FILTER, LOW PASS				
		< TRANSISTOR >				
Q1	8-729-201-27	TRANSISTOR	2SC2715Y-TE85L			
Q2	8-729-201-27	TRANSISTOR	2SC2715Y-TE85L			
Q3	8-729-201-27	TRANSISTOR	2SC2715Y-TE85L			
Q4	8-729-201-27	TRANSISTOR	2SC2715Y-TE85L			
Q5	8-729-424-08	TRANSISTOR	MUN2111			
Q9	8-729-216-22	TRANSISTOR	2SA812-M5M6			
Q11	8-729-421-22	TRANSISTOR	MUN2211			
Q12	8-729-421-22	TRANSISTOR	MUN2211			
Q13	8-729-421-22	TRANSISTOR	MUN2211			
Q14	8-729-421-22	TRANSISTOR	MUN2211			
		< RESISTOR >				
R1	1-249-401-11	CARBON	47	5%	1/4W	F
R2	1-216-037-00	METAL CHIP	330	5%	1/10W	
R3	1-216-037-00	METAL CHIP	330	5%	1/10W	
R5	1-216-037-00	METAL CHIP	330	5%	1/10W	
R6	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R7	1-216-037-00	METAL CHIP	330	5%	1/10W	
R8	1-216-037-00	METAL CHIP	330	5%	1/10W	
R9	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R10	1-216-037-00	METAL CHIP	330	5%	1/10W	
R11	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R12	1-216-037-00	METAL CHIP	330	5%	1/10W	
R13	1-216-037-00	METAL CHIP	330	5%	1/10W	
R14	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R18	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R19	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R21	1-216-049-91	METAL CHIP	1.0K	5%	1/10W	
R22	1-216-049-91	METAL CHIP	1.0K	5%	1/10W	
R23	1-216-049-91	METAL CHIP	1.0K	5%	1/10W	
R24	1-216-025-91	METAL CHIP	100	5%	1/10W	
R25	1-249-417-11	CARBON	1K	5%	1/4W	F
R26	1-249-437-11	CARBON	47K	5%	1/4W	
R27	1-249-429-11	CARBON	10K	5%	1/4W	
R28	1-249-417-11	CARBON	1K	5%	1/4W	F
R29	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R30	1-216-186-00	METAL CHIP	330	5%	1/8W	
R31	1-216-025-91	METAL CHIP	100	5%	1/10W	

TCB

Ref. No.	Part No.	Description			Remark
R47	1-216-097-91	METAL CHIP	100K	5%	1/10W
R48	1-249-417-11	CARBON	1.0K	5%	1/4W F
R49	1-216-049-91	METAL CHIP	1.0K	5%	1/10W
R50	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R51	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R52	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R53	1-216-061-00	METAL CHIP	3.3K	5%	1/4W
R54	1-216-073-00	METAL CHIP	10K	5%	1/10W
R55	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R57	1-216-162-00	METAL CHIP	33	5%	1/8W
R58	1-216-013-00	METAL CHIP	33	5%	1/10W
R91	1-216-295-91	METAL CHIP	0	5%	1/10W
R92	1-216-073-00	METAL CHIP	10K	5%	1/10W
R1701	1-216-081-00	METAL CHIP	22K	5%	1/10W
R1702	1-216-085-00	METAL CHIP	33K	5%	1/10W
R1703	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R1704	1-216-076-00	METAL CHIP	13K	5%	1/10W
R1705	1-216-049-91	METAL CHIP	1.0K	5%	1/10W
R1706	1-216-049-91	METAL CHIP	1.0K	5%	1/10W
R1707	1-216-097-91	METAL CHIP	100K	5%	1/10W
R1708	1-216-095-00	METAL CHIP	82K	5%	1/10W
R1709	1-216-089-91	METAL CHIP	47K	5%	1/10W
R1710	1-216-073-00	METAL CHIP	10K	5%	1/10W
R1711	1-249-429-11	CARBON	10K	5%	1/4W
R1714	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R1715	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R1716	1-216-097-91	METAL CHIP	100K	5%	1/10W
R1717	1-216-097-91	METAL CHIP	100K	5%	1/10W
R1718	1-249-429-11	CARBON	10K	5%	1/4W
R1719	1-216-097-91	METAL CHIP	100K	5%	1/10W
R1720	1-249-434-11	CARBON	27K	5%	1/4W
R1721	1-216-073-00	METAL CHIP	10K	5%	1/10W

< VARIABLE RESISTOR >

RV41	1-238-600-11	RES, ADJ, CARBON 10K			
RV42	1-238-600-11	RES, ADJ, CARBON 10K			
RV1701	1-238-600-11	RES, ADJ, CARBON 10K			
RV1702	1-238-599-11	RES, ADJ, CARBON 4.7K			

< TERMINAL >

TM1	1-537-488-11	TERMINAL BOARD (ANT) (ANTENNA)			

< TEST PIN>

TP1701	1-536-354-00	PIN, POST			
TP1702	1-536-354-00	PIN, POST			

< VIBRATOR >

X21	1-760-549-31	VIBRATOR, CRYSTAL (4.5MHz)			
X21	1-760-549-11	VIBRATOR, CRYSTAL (4.5MHz)			
X41	1-767-825-21	FILTER, CERAMIC (10.7MHz)			
X42	1-527-981-00	FILTER, CERAMIC (450kHz)			

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Ref. No.	Part No.	Description			Remark
*	A-4303-590-A	TCB BOARD, COMPLETE (AEP,UK,G)			

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< CAPACITOR >

C1	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C2	1-126-967-11	ELECT	47uF	20%	16V
C3	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C5	1-163-031-11	CERAMIC CHIP	0,01uF		50V
C6	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C8	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C9	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C10	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C16	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C19	1-163-249-11	CERAMIC CHIP	82PF	5%	50V
C21	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C22	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C23	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C24	1-163-239-11	CERAMIC CHIP	33PF	5%	50V
C26	1-126-967-11	ELECT	47uF	20%	16V
C28	1-126-967-11	ELECT	47uF	20%	16V
C29	1-162-306-11	CERAMIC	0.01uF	30%	16V
C30	1-126-961-11	ELECT	2.2uF	20%	50V
C31	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C32	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C33	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C34	1-163-229-11	CERAMIC CHIP	12PF	5%	50V
C35	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C36	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C37	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C39	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C40	1-126-967-11	ELECT	47uF	20%	16V
C41	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C42	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C43	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C44	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C45	1-163-077-00	CERAMIC CHIP	0.1uF		50V
C46	1-126-967-11	ELECT	47uF	20%	16V
C47	1-126-301-11	ELECT	1.0uF	20%	50V
C48	1-163-059-00	CERAMIC CHIP	0.01uF		50V
C49	1-126-964-11	ELECT	10uF	20%	50V
C50	1-126-960-11	ELECT	1.0uF	20%	50V
C51	1-126-959-11	ELECT	0.47uF	20%	50V
C52	1-126-960-11	ELECT	1.0uF	20%	50V
C53	1-126-964-11	ELECT	10uF	20%	50V
C54	1-104-396-11	ELECT	10uF	20%	16V
C55	1-104-396-11	ELECT	10uF	20%	16V
C56	1-104-396-11	ELECT	10uF	20%	16V
C57	1-163-017-00	CERAMIC CHIP	0.0047uF	10%	50V
C58	1-163-017-00	CERAMIC CHIP	0.0047uF	10%	50V
C59	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C60	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C61	1-126-301-11	ELECT	1uF	20%	50V
C62	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C63	1-163-129-00	CERAMIC CHIP	330PF	5%	50V
C65	1-126-967-11	ELECT	47uF	20%	16V
C66	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C67	1-126-16211	ELECT	3.3uF	20%	50V

Ref. No.	Part No.	Description	Remark
		< TRIMMER >	
CT1701	1-141-444-11	CAP, CERAMIC TRIMMER 50PF	
CT1701	1-141-569-11	CAP, ADJ 50PF	
		< DIODE >	
D21	8-719-976-99	DIODE DTZ5.1B	
D41	8-719-016-74	DIODE 1SS352	
D42	8-719-016-74	DIODE 1SS352	
D43	8-719-016-74	DIODE 1SS352	
D1701	8-719-016-74	DIODE 1SS352	
D1702	8-719-016-74	DIODE 1SS352	
D1703	8-719-991-33	DIODE 1SS133T	
D1704	8-719-016-74	DIODE 1SS352	
		< FRONTEND >	
FE1	1-693-335-11	FRONT END (3 GANG)	
FE2	1-233-514-11	ENCAPSULATED COMPONENT	
		< IC >	
IC21	8-759-288-54	IC LC72130	
IC41	8-759-495-82	IC LA1833	
IC1701	8-759-063-04	IC IR3R42	
IC1702	8-759-140-53	IC uPD4053BC	
		< IFT >	
IFT41	1-409-636-11	TRANSFORMER, IF (CERAMIC FILTER)	
		< JUMPER RESISTOR >	
JR2	1-216-295-91	METAL CHIP 0 5% 1/10W	
JR6	1-216-295-91	METAL CHIP 0 5% 1/10W	
JR8	1-216-295-91	METAL CHIP 0 5% 1/10W	
JR9	1-216-295-91	METAL CHIP 0 5% 1/10W	
JR12	1-216-296-91	METAL CHIP 0 5% 1/8W	
JR46	1-216-296-91	METAL CHIP 0 5% 1/8W	
JR47	1-216-295-91	METAL CHIP 0 5% 1/10W	
JR48	1-216-295-91	METAL CHIP 0 5% 1/10W	
JR49	1-216-296-91	METAL CHIP 0 5% 1/8W	
JR51	1-216-295-91	METAL CHIP 0 5% 1/10W	
JR52	1-216-295-91	METAL CHIP 0 5% 1/10W	
JR53	1-216-296-91	METAL CHIP 0 5% 1/8W	
JR54	1-216-295-91	METAL CHIP 0 5% 1/10W	
JR1701	1-216-295-91	METAL CHIP 0 5% 1/10W	
JR1702	1-216-295-91	METAL CHIP 0 5% 1/10W	
JR1703	1-216-295-91	METAL CHIP 0 5% 1/10W	
JR1704	1-216-295-91	METAL CHIP 0 5% 1/10W	
JR1705	1-216-295-91	METAL CHIP 0 5% 1/10W	
		< COIL >	
L3	1-410-521-11	MICRO INDUCTOR 100uH	
L41	1-407-500-00	MICRO INDUCTOR 4.7mH	
L1701	1-409-497-11	COIL (FILTER)	
		< FILTER >	
LPF41	1-239-845-11	FILTER, LOW PASS	
LPF42	1-239-845-11	FILTER, LOW PASS	

Ref. No.	Part No.	Description	Remark
		< TRANSISTOR >	
Q1	8-729-201-27	TRANSISTOR 2SC2715Y	
Q2	8-729-201-27	TRANSISTOR 2SC2715Y	
Q3	8-729-201-27	TRANSISTOR 2SC2715Y	
Q4	8-729-201-27	TRANSISTOR 2SC2715Y	
Q5	8-729-216-22	TRANSISTOR MUN2111	
Q9	8-729-216-22	TRANSISTOR 2SA812-M5M6	
Q11	8-729-421-22	TRANSISTOR MUN2211	
Q12	8-729-421-22	TRANSISTOR MUN2211	
Q13	8-729-421-22	TRANSISTOR MUN2211	
Q14	8-729-421-22	TRANSISTOR MUN2211	
Q1701	8-729-424-08	TRANSISTOR MUN2111	
Q1702	8-729-027-43	TRANSISTOR RT1N141C	
Q1703	8-729-421-22	TRANSISTOR MUN2211	
		< RESISTOR >	
R1	1-249-401-11	CARBON 47 5% 1/4W	F
R2	1-216-037-00	METAL CHIP 330 5% 1/10W	
R3	1-216-037-00	METAL CHIP 330 5% 1/10W	
R5	1-216-037-00	METAL CHIP 330 5% 1/10W	
R6	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R7	1-216-037-00	METAL CHIP 330 5% 1/10W	
R8	1-216-037-00	METAL CHIP 330 5% 1/10W	
R9	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R10	1-216-037-00	METAL CHIP 330 5% 1/10W	
R11	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R12	1-216-037-00	METAL CHIP 330 5% 1/10W	
R13	1-216-037-00	METAL CHIP 330 5% 1/10W	
R14	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R18	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R19	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R21	1-249-417-11	CARBON 1.0K 5% 1/4W	
R22	1-249-417-11	CARBON 1.0K 5% 1/4W	
R23	1-249-417-11	CARBON 1.0K 5% 1/4W	
R24	1-247-807-31	CARBON 100 5% 1/4W	
R25	1-249-417-11	CARBON 1.0K 5% 1/4W	F
R26	1-249-437-11	CARBON 47K 5% 1/4W	
R27	1-249-429-11	CARBON 10K 5% 1/4W	
R28	1-249-417-11	CARBON 1.0K 5% 1/4W	F
R29	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R30	1-216-186-00	METAL CHIP 330 5% 1/8W	
R31	1-216-025-91	METAL CHIP 100 5% 1/10W	
R32	1-249-425-11	CARBON 4.7K 5% 1/4W	F
R33	1-249-425-11	CARBON 4.7K 5% 1/4W	F
R34	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R35	1-216-214-00	METAL CHIP 4.7K 5% 1/8W	
R36	1-216-025-91	METAL CHIP 100 5% 1/10W	
R37	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R38	1-216-089-91	METAL CHIP 47K 5% 1/10W	
R39	1-249-429-11	CARBON 10K 5% 1/4W	
R41	1-216-013-00	METAL CHIP 33 5% 1/10W	
R42	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R43	1-216-037-00	METAL CHIP 330 5% 1/10W	
R44	1-216-001-00	METAL CHIP 10 5% 1/10W	
R45	1-247-843-11	CARBON 3.3K 5% 1/4W	F
R46	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	

Ref. No.	Part No.	Description			Remark
TM402	1-537-240-11	TERMINAL BOARD (CHECKER PIN) (SURROUND SPEAKER)			

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Ref. No.	Part No.	Description			Remark
*	1-658-576-11	SENSOR BOARD *************			
		< IC >			
IC702	8-749-924-18	IC PHOTO INTERRUPTER RPI-1391			
IC703	8-749-924-30	IC PHOTO REFLECTOR GP2S28			
		< RESISTOR >			
R701	1-249-416-11	CARBON	820	5%	1/4W F
R702	1-249-407-11	CARBON	150	5%	1/4W F

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Ref. No.	Part No.	Description			Remark
*	A-4303-588-A	TCB BOARD, COMPLETE (EE,CIS) **************************			
		< CAPACITOR >			
C1	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C2	1-126-967-11	ELECT	47uF	20%	16V
C3	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C5	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C6	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C7	1-101-004-00	CERAMIC	0.01uF		50V
C8	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C9	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C10	1-162-306-11	CERAMIC CHIP	0.01uF	30%	16V
C16	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C19	1-163-249-11	CERAMIC CHIP	82PF	5%	50V
C21	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C22	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C23	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C24	1-163-239-11	CERAMIC CHIP	33PF	5%	50V
C26	1-126-967-11	ELECT	47uF	20%	16V
C28	1-126-967-11	ELECT	47uF	20%	16V
C29	1-162-306-11	CERAMIC	0.01uF	30%	16V
C30	1-126-961-11	ELECT	2.2uF	20%	50V
C31	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C32	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C33	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C34	1-163-229-11	CERAMIC CHIP	12PF	5%	50V
C35	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C36	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C37	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C39	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C40	1-126-967-11	ELECT	47uF	20%	16V
C41	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C42	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C43	1-163-031-91	CERAMIC CHIP	0.01uF		50V
C44	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C45	1-163-077-00	CERAMIC CHIP	0.1uF		50V
C46	1-126-967-11	ELECT	47uF	20%	16V
C47	1-126-301-11	ELECT	1.0uF	20%	50V
C48	1-163-059-00	CERAMIC CHIP	0.01uF		50V
C49	1-126-964-11	ELECT	10uF	20%	50V
C50	1-126-960-11	ELECT	1.0uF	20%	50V
C51	1-126-959-11	ELECT	0.47uF	20%	50V
C52	1-126-960-11	ELECT	1.0uF	20%	50V
C53	1-126-964-11	ELECT	10uF	20%	50V
C54	1-104-396-11	ELECT	10uF	20%	16V
C55	1-104-396-11	ELECT	10uF	20%	16V
C56	1-104-396-11	ELECT	10uF	20%	16V
C57	1-163-017-00	CERAMIC CHIP	0.0047uF	10%	50V
C58	1-163-017-00	CERAMIC CHIP	0.0047uF	10%	50V
C59	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C60	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C61	1-126-301-11	ELECT	1.0uF	20%	50V
C62	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C63	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C64	1-126-967-11	ELECT	47uF	20%	16V
C65	1-126-967-11	ELECT	47uF	20%	16V
C66	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C67	1-126-162-11	ELECT	3.3uF	20%	50V
C68	1-163-031-11	CERAMIC	0.01uF		50V
C69	1-126-967-11	ELECT	47uF	20%	16V
C71	1-162-306-11	CERAMIC	0.01uF	30%	16V
C72	1-126-967-11	ELECT	47uF	20%	16V
C73	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C74	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C1701	1-162-294-31	CERAMIC CHIP	0.001uF	10%	50V
C1702	1-130-014-00	FILM	470PF	5%	50V
C1703	1-126-959-11	ELECT	0.47uF	20%	50V
C1704	1-126-959-11	ELECT	0.47uF	20%	50V
C1705	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C1706	1-126-960-11	ELECT	1.0uF	20%	50V
C1707	1-163-129-00	CERAMIC CHIP	330PF	5%	50V
C1710	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C1711	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C1712	1-130-736-11	FILM	0.01uF	5%	50V
C1713	1-130-736-11	FILM	0.01uF	5%	50V
C1714	1-126-960-11	ELECT	1.0uF	20%	50V
C1715	1-126-960-11	ELECT	1.0uF	20%	50V
C1716	1-126-960-11	ELECT	1.0uF	20%	50V
C1719	1-126-967-11	ELECT	47uF	20%	16V
C1720	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C1723	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C1724	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C1725	1-126-967-11	ELECT	47uF	20%	16V
C1726	1-126-960-11	ELECT	1.0uF	20%	50V
C1727	1-126-960-11	ELECT	1.0uF	20%	50V
C1728	1-126-966-11	ELECT	33uF	20%	16V
		< FILTER >			
CF1	1-567-389-11	FILTER, CERAMIC			
CF3	1-567-389-11	FILTER, CERAMIC			
		< CONNECTOR >			
* CN1	1-568-834-11	SOCKET, CONNECTOR 15P			

Ref. No.	Part No.	Description			Remark
Q407	8-729-900-80	TRANSISTOR	DTC114ES		(GRX8/R800/RX99)
Q408	8-729-119-78	TRANSISTOR	2SC403SP-51		(GRX8/R800/RX99)
		< RESISTOR >			
⚠R101	1-215-886-11	METAL OXIDE	100	5%	2W F (RX88/RX99)
R102	1-249-429-11	CARBON	10K	5%	1/4W (RX88/RX99)
R103	1-247-903-00	CARBON	1M	5%	1/4W
⚠R111	1-217-637-00	FUSIBLE	1	5%	1/4W F
R112	1-249-417-11	CARBON	1K	5%	1/4W F
R113	1-249-417-11	CARBON	1K	5%	1/4W F
R114	1-247-815-91	CARBON	220	5%	1/4W
R115	1-247-815-91	CARBON	220	5%	1/4W
R116	1-249-425-11	CARBON	4.7K	5%	1/4W F
R201	1-249-417-11	CARBON	1K	5%	1/4W F
R202	1-249-437-11	CARBON	47K	5%	1/4W
R203	1-249-412-11	CARBON	390	5%	1/4W F
R204	1-249-437-11	CARBON	47K	5%	1/4W
R205	1-260-107-11	CARBON	4.7K	5%	1/2W
R206	1-260-107-11	CARBON	4.7K	5%	1/2W
⚠R207	1-212-881-11	FUSIBLE	100	5%	1/4W F
R208	1-220-893-11	METAL	0.22	10%	5W
R209	1-249-417-11	CARBON	1K	5%	1/4W F
R210	1-249-431-11	CARBON	15K	5%	1/4W
R211	1-249-441-11	CARBON	100K	5%	1/4W
R212	1-260-076-11	CARBON	10	5%	1/2W
⚠R221	1-217-637-00	FUSIBLE	1	5%	1/4W F
R222	1-260-103-11	CARBON	2.2K	5%	1/2W
R223	1-260-103-11	CARBON	2.2K	5%	1/2W
R224	1-249-425-11	CARBON	4.7K	5%	1/4W F
R251	1-249-417-11	CARBON	1K	5%	1/4W F
R252	1-249-437-11	CARBON	47K	5%	1/4W
R253	1-249-412-11	CARBON	390	5%	1/4W F
R254	1-249-437-11	CARBON	47K	5%	1/4W
R255	1-260-107-11	CARBON	4.7K	5%	1/2W
R256	1-260-107-11	CARBON	4.7K	5%	1/2W
⚠R257	1-212-881-11	FUSIBLE	100	5%	1/4W F
R258	1-220-893-11	METAL	0.22	10%	5W
R259	1-249-417-11	CARBON	1K	5%	1/4W F
R260	1-249-431-11	CARBON	15K	5%	1/4W
R261	1-249-441-11	CARBON	100K	5%	1/4W
R262	1-260-076-11	CARBON	10	5%	1/2W
R271	1-260-093-11	CARBON	330	5%	1/2W
R272	1-260-093-11	CARBON	330	5%	1/2W
R273	1-260-093-11	CARBON	330	5%	1/2W
R274	1-260-093-11	CARBON	330	5%	1/2W
R301	1-249-429-11	CARBON	10K	5%	1/4W
R302	1-249-425-11	CARBON	4.7K	5%	1/4W F
R303	1-249-429-11	CARBON	10K	5%	1/4W
R304	1-249-429-11	CARBON	10K	5%	1/4W
R305	1-249-425-11	CARBON	4.7K	5%	1/4W F
R306	1-249-441-11	CARBON	100K	5%	1/4W
R310	1-247-903-00	CARBON	1M	5%	1/4W
R311	1-249-441-11	CARBON	100K	5%	1/4W
R312	1-249-419-11	CARBON	1.5K	5%	1/4W F
R313	1-247-863-91	CARBON	22K	5%	1/4W

Ref. No.	Part No.	Description			Remark
R314	1-247-863-91	CARBON	22K	5%	1/4W
R315	1-249-439-11	CARBON	68K	5%	1/4W
R316	1-249-437-11	CARBON	47K	5%	1/4W
R321	1-249-440-11	CARBON	82K	5%	1/4W
R322	1-249-441-11	CARBON	100K	5%	1/4W
R323	1-249-441-11	CARBON	100K	5%	1/4W
R331	1-247-890-11	CARBON	300K	5%	1/4W
R332	1-249-429-11	CARBON	10K	5%	1/4W
R333	1-249-431-11	CARBON	15K	5%	1/4W
⚠R401	1-216-457-00	METAL OXIDE	1.2K	5%	2W F
⚠R402	1-216-457-00	METAL OXIDE	1.2K	5%	2W F (GRX8/R800/RX99)
⚠R404	1-216-457-00	METAL OXIDE	1.2K	5%	2W F (GRX8/R800/RX99)
R405	1-249-429-11	CARBON	10K	5%	1/4W (GRX8/R800/RX99)
R406	1-249-437-11	CARBON	47K	5%	1/4W
R407	1-249-437-11	CARBON	47K	5%	1/4W
R408	1-249-440-11	CARBON	82K	5%	1/4W
R409	1-249-440-11	CARBON	82K	5%	1/4W
R410	1-249-389-11	CARBON	4.7	5%	1/4W F (RX88/RX99)
R411	1-249-389-11	CARBON	4.7	5%	1/4W F (RX88/RX99)
R412	1-249-389-11	CARBON	4.7	5%	1/4W F (RX88/RX99)
R413	1-249-389-11	CARBON	4.7	5%	1/4W F (RX88/RX99)
R414	1-260-076-11	CARBON	10	5%	1/2W (RX88/RX99)
R415	1-260-076-11	CARBON	10	5%	1/2W (RX88/RX99)
R416	1-249-389-11	CARBON	4.7	5%	1/4W F (RX88/RX99)
R417	1-249-389-11	CARBON	4.7	5%	1/4W F (RX88/RX99)
R418	1-249-389-11	CARBON	4.7	5%	1/4W F (RX88/RX99)
R419	1-249-389-11	CARBON	4.7	5%	1/4W F (RX88/RX99)
R423	1-260-076-11	CARBON	10	5%	1/2W (RX88/RX99)
R424	1-260-076-11	CARBON	10	5%	1/2W (RX88/RX99)
R429	1-249-437-11	CARBON	47K	5%	1/4W
R431	1-249-437-11	CARBON	47K	5%	1/4W (GRX8/R800/RX99)
		< RELAY >			
RY101	1-755-195-11	RELAY (RX88/RX99)			
RY401	1-755-141-11	RELAY			
RY402	1-755-141-11	RELAY (GRX8/R800/RX99)			
RY404	1-515-920-11	RELAY (24V)(GRX8/R800/RX99)			
		< THERMISTOR >			
THP321	1-807-796-11	THERMISTOR			
		< TERMINAL >			
TM401	1-537-842-11	TERMINAL BOARD (FRONT SPEAKER)			

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
HP101	A-2056-683-A	DECK (A) ASSY, HEAD (230PWR1)	
HRPE101	A-2056-682-A	DECK (B) ASSY, HEAD (230AWR1)	
HRPE101	A-2056-684-A	DECK (B) ASSY, HEAD (230PWR1)	
M1	A-2004-628-A	MOTOR ASSY, CAPSTAN	
M701	A-4672-004-A	MOTOR ASSY (TURN)	
M801	A-4672-004-A	MOTOR ASSY (SLIDE)	
M901	1-698-792-11	FAN, DC (RX88/RX99)	
M901	1-763-048-21	FAN, D.C. (GRX8/R800)	
ND601	1-517-731-21	INDICATOR TUBE, FLUORESCENT	
S811	1-473-335-11	ENCODER,ROTARY (BU,TRAY ADDRESS DET)	
⚠T501	1-431-708-11	TRANSFORMER, POWER (AEP,UK,G,EE,CIS,TH)	
⚠T501	1-431-709-11	TRANSFORMER, POWER (E2,E3,SP,MY,MX,HK,TW,AUS,EA3,EA4,AR)	

****

ACCESSORIES & PACKING MATERIALS
****

Part No.	Description
1-475-571-11	COMMANDER, STANDARD (RM-SR8)(RX88)
1-501-374-11	ANTENNA, LOOP (RX88)
1-501-804-11	ANTENNA (FM)(RX88:AEP,UK,G)
3-862-011-11	MANUAL, INSTRUCTION (RX88)(ENGLISH)
3-862-011-21	MANUAL, INSTRUCTION (RX88:AEP) (FRENCH,SPANISH)
3-862-011-51	MANUAL, INSTRUCTION (RX88:AEP,G) (GERMAN)
3-862-011-61	MANUAL, INSTRUCTION (RX88:AEP) (DUTCH,ITALIAN,POLISH)
4-991-151-21	COVER, BATTERY (FOR RM-SR8)(RX88)

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HARDWARE LIST
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Ref. No.	Part No.	Description
#1	7-685-872-09	SCREW +BVTT 3X8 (S)
#2	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S
#3	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S
#4	7-685-650-79	SCREW +BVTP 3X16 TYPE2 IT-3
#5	7-685-871-01	SCREW +BVTT 3X6 (S)
#6	7-685-880-09	SCREW +BVTT 4X6 (S)(GRX8/R800)
#6	7-685-871-01	SCREW +BVTT 3X6 (S)(RX88/RX99)
#7	7-685-852-04	SCREW +BVTT 2X5 (S)
#8	7-621-775-10	SCREW +B 2.6X4
#9	7-621-255-15	SCREW +P 2X3
#10	7-685-850-04	SCREW +BVTT 2X3 (S)
#11	7-628-254-15	SCREW +PS 2.6X6
#12	7-628-254-50	SCREW +PS 2.6X16
#13	7-628-851-04	SCREW +BVTT 2X4 (S)

9-922-760-11

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Home A&V Products Company

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